









# THE NEW INTERNATIONAL YEAR BOOK

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A COMPENDIUM OF THE WORLD'S  
PROGRESS

FOR THE YEAR

1926

EDITOR

HERBERT TREADWELL WADE

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## PREFACE

The twenty-fifth issue of the **NEW INTERNATIONAL YEAR BOOK** covering the year 1926 again serves as an appropriate addition to this series of annual records begun in 1898. The aim has been to provide in the most convenient and acceptable form a chronicle of the more important phases of human activity, and for this purpose there has been employed not merely a grouping by departments, but the alphabetical arrangement, a method that long since has vindicated itself as best meeting the convenience and needs of the reader or user of this work of reference. The continued publication in the United States of this **NEW INTERNATIONAL YEAR BOOK** and the increased favor that has attended its appearance, mark the development of a more general interest in international affairs, for today as never before the interrelations of nations and their peoples are of vital concern. It is essential to understand the world currents and the channels through which they flow, along with the proper background of permanent characteristics and statistics.

Passing from general considerations to the year under review, the record of 1926 naturally has its own peculiar aspect, and the first group of topics which stand out as worthy of mention are those included in the large field of international relations. The progress of the **LEAGUE OF NATIONS**, the operation of the **WORLD COURT**, the working of the **DAWES PLAN**, the application of **INTERNATIONAL ARBITRATION** in the Tacna-Arica controversy, are all matters of pressing interest. In **ALBANIA**, **MOROCCO**, and **SYRIA** were taking place political events involving the peace of Europe as well as the countries immediately concerned. In **GREAT BRITAIN** not only was there the protracted coal strike, but the short-lived general strike which so thoroughly aroused the nation. In **FRANCE** the attempt to stabilize and restore the value of the franc stood out amid the changes of ministries. In **GERMANY** the gradual return to the normal in both politics and industry was notable. In **ITALY** the great government experiment under the leadership of the extraordinary Mussolini continued notwithstanding the attempts on his life. In **RUSSIA** the Soviet Government maintained itself at home and abroad with increased activity. **CHINA** furnished a setting for further scenes in its own political drama which was beginning seriously to affect the western world.

In the **UNITED STATES** with continued prosperity the commercial and industrial record of the year as given under **FINANCIAL REVIEW** might be considered to have outweighed the political in importance. The American Republic, however, had such active foreign concerns as the settlement of the European debt payments and the maintenance of friendly relations in **MEXICO** and **NICARAGUA**. **PROHIBITION** continued to be discussed, the anthracite **COAL** strike was settled, and the **RAILWAYS** had a year of prosperity with a minimum of hostility from either the government or general public. The review of administration activities and the record of Congress as given in the article **UNITED STATES** indicate what was accomplished during the year by the executive and legislative branches of the government, of which the reduction of **TAXATION** was not the least of the achievements.

Following political history, reference appropriately might be made to the articles in the **YEAR BOOK** which discuss literature and philosophy. Not only is there the usual article on **LITERATURE**, **ENGLISH AND AMERICAN**, but **FRENCH LITERATURE**,

## PREFACE

GERMAN LITERATURE, SCANDINAVIAN LITERATURE, SPANISH LITERATURE, MODERN PHILOLOGY, CLASSICAL PHILOLOGY, and INTERNATIONAL LANGUAGE, truly reflect the international character of the work. All of these articles with their abundant and accurate bibliographies, indicate the year's advance in such a way as to arouse the interest of those wishing information about new books and their authors. There is the annual critical study of the American stage presented under THEATRE, while under MUSIC the usual record of the year is chronicled. The first International Congress of Philosophy to be held in the United States is described appropriately under PHILOSOPHY, while under PSYCHOLOGY and PSYCHICAL RESEARCH the YEAR BOOK seeks to satisfy the increasing and more general interest aroused in these subjects. Fundamental discussions and some controversies still characterized the year in the religious denominations, but there were not the spectacular outbursts that have found place in previous YEAR BOOKS. The great Eucharistic Congress of the ROMAN CATHOLIC CHURCH took place at Chicago; while other Christian Churches were building notable cathedrals and other edifices as well as increasing their activities in mission fields and elsewhere.

ARCHITECTURE always has received adequate and sympathetic attention in the YEAR BOOK, and the record for 1926 is no exception to the rule. In engineering there have been notable developments in BRIDGE design and construction, in AQUE-DUCTS, WATER WORKS, and the building of DAMS and reservoirs, the construction of TUNNELS and PORT AND HARBOR improvements, and in similar fields. In electrical engineering under RADIO TELEGRAPHY AND TELEPHONY the arrangements made for radio telephonic communications between America and England indicated further developments of wide practical use.

Under AGRICULTURE the YEAR BOOK summarizes and analyzes the progress of the year in this basic industry, devoting special attention to unusual incidents such as the record COTTON crop. In MEDICINE AND SURGERY the leading developments and items of progress are referred to and discussed succinctly, and the successes achieved in combating new and ancient maladies are described. In AËRONAUTICS the year 1926 was one of steady progress, as exemplified by the extension of commercial passenger and package routes in Europe and increased mail flying in the United States, as well as by the successful crossing of the North Pole by both dirigible and airplane. Aircraft contributed to EXPLORATION, but other work was done in the small portion of the earth's surface yet unknown. The reader can look with confidence to learning the advances made in pure science, and especially in BOTANY, GEOLOGY, MINERALOGY, and ZOÖLOGY the record is replete with interest. ANTHROPOLOGY and ARCHEOLOGY cover their usual fields; while in ASTRONOMY, CHEMISTRY, METEOROLOGY, and PHYSICS we find ever more evident the interrelations and interdependence of these sciences. Important CELEBRATIONS and EXPOSITIONS were held during the year, of which the Sesqui-Centennial at Philadelphia receives adequate treatment. In social science, CRIME and its prevention aroused great attention during 1926; while IMMIGRATION, CHILD LABOR, MARRIAGE AND DIVORCE, STRIKES AND LOCKOUTS, as well as LABOR, and LABOR LEGISLATION continued as topics of interest.

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## KEY TO PRONUNCIATION

<b>a</b>	as in ale, fate. Also see <b>ē</b> , below.	<b>d</b>	as in the Spanish Almodovar, pulgada, where it is nearly like <i>th</i> in English then, this.
<b>ā</b>	" " senate, chaotic.	<b>g</b>	" " go, get.
<b>ā</b>	" " glare, care, and as <i>e</i> in there. See <b>ē</b> , below.	<b>g</b>	" " the German Landtag, and <i>ch</i> in Feuerbach, buch; where it is a guttural sound made with the back part of the tongue raised toward the soft palate, as in the sound made in clearing the throat.
<b>ā</b>	" " am, at.	<b>h</b>	" <i>j</i> in the Spanish Jijona, <i>g</i> in the Spanish gila; where it is a fricative somewhat resembling the sound of <i>h</i> in English hue or <i>y</i> in yet, but stronger.
<b>ā</b>	" " arm, father.	<b>hw</b>	" <i>wh</i> in which.
<b>ā</b>	" " ant, and final <i>a</i> in America, armada, etc. In rapid speech this vowel readily becomes more or less obscured and like the neutral vowel or a short <i>u</i> ( <b>ū</b> ).	<b>k</b>	" <i>ch</i> in the German ich, Albrecht, and <i>g</i> in the German Arensburg, Mecklenburg; where it is a fricative sound made between the tongue and the hard palate toward which the tongue is raised. It resembles the sound of <i>h</i> in hue, or <i>y</i> in yet; or the sound made by beginning to pronounce a <i>k</i> , but not completing the stoppage of the breath. The character <i>k</i> is also used to indicate the rough aspirates or fricatives of some of the Oriental languages, as of <i>kh</i> in the word Khan.
<b>α</b>	" " final, regal, where it is of a neutral or obscure quality.	<b>n</b>	" " in sinker, longer.
<b>a</b>	" " all, fall.	<b>ng</b>	" " sing, long.
<b>ē</b>	" " eve.	<b>n</b>	" " the French bon, Bourbon, and <i>m</i> in the French Étampes; where it is equivalent to a nasalizing of the preceding vowel. This effect is approximately produced by attempting to pronounce "onion" without touching the tip of the tongue to the roof of the mouth. The corresponding nasal of Portuguese is also indicated by <i>n</i> , as in the case of São Antão.
<b>ē</b>	" " elate, evade.	<b>sh</b>	" " shine, shut.
<b>ē</b>	" " end, pet. The characters <b>ē</b> , <b>ā</b> , and <b>ā</b> are used for <b>ā</b> , <b>ae</b> in German, as in Baedeker, Gräfe, Händel, to the values of which they are the nearest English vowel sounds. The sound of Swedish <b>ā</b> is also sometimes indicated by <b>ē</b> , sometimes by <b>ā</b> or <b>ā</b> .	<b>th</b>	" " thrust, thin.
<b>ē</b>	" " fern, her, and as <i>i</i> in sir. Also for <b>ē</b> , <b>oe</b> , in German, as in Göthe, Goethe, Ortel, Oertel, and for <b>eu</b> and <b>œu</b> in French, as in Neufchâtel, Crèveceur; to which it is the nearest English vowel sound.	<b>th</b>	" " then, this.
<b>e</b>	" " agency, judgment, where it is of a neutral or obscure quality.	<b>zh</b>	" <i>z</i> in azure, and <i>s</i> in pleasure.
<b>i</b>	" " ice, quiet.	An apostrophe [ <i>l</i> ] is sometimes used to denote a glide or neutral connecting vowel, as in tā'b'l (table), kāz'm (chasm).	
<b>i</b>	" " quiescent.	Otherwise than as noted above, the letters used in the respellings for pronunciation are to receive their ordinary English sounds.	
<b>i</b>	" " ill, fit.	When the pronunciation is sufficiently shown by indicating the accented syllables, this is done without respelling; as in the case of very common English words, and words which are so spelled as to insure their correct pronunciation if they are correctly accented. Pronunciation is discussed in the NEW INTERNATIONAL ENCYCLOPEDIA.	
<b>ō</b>	" " old, sober.		
<b>ō</b>	" " obey, sobriety.		
<b>ō</b>	" " orb, nor.		
<b>ō</b>	" " odd, forest, not.		
<b>o</b>	" " atom, carol, where it has a neutral or obscure quality.		
<b>oi</b>	" " oil, boil, and for <b>eu</b> in German, as in Feuerbach.		
<b>ou</b>	" " food, fool, and as <i>u</i> in rude, rule.		
<b>ou</b>	" " house, mouse.		
<b>ū</b>	" " use, mule.		
<b>ū</b>	" " unite.		
<b>ū</b>	" " cut, but.		
<b>ū</b>	" " full, put, or as <i>oo</i> in foot, book. Also for <b>ū</b> in German, as in München, Müller, and <i>u</i> in French, as in Buchez, Budé; to which it is the nearest English vowel sound.		
<b>ū</b>	" " urn, burn.		
<b>y</b>	" " yet, yield.		
<b>z</b>	" " the Spanish Habana, Córdoba, where it is like a <i>v</i> made with the lips alone, instead of with the teeth and lips.		
<b>ch</b>	" chair, cheese.		

# THE NEW INTERNATIONAL YEAR BOOK

**ABBOTT, EDWIN.** English author and teacher, died in London, England, October 13, after a protracted illness. He was born in London, Dec. 20, 1838, the son of Edwin Abbott, headmaster of the Philological School in London, and was educated at the City of London School and St. John's College, Cambridge University, where he took honors and became a fellow in 1862. He was assistant master of King Edward's School, Birmingham, from 1862-64, of Clifton College in 1865, and headmaster of City of London School with which he was actively identified until 1889. He was eminent not only as a literary scholar, critic, and teacher, but also as a preacher. He was Hulsean Lecturer at Cambridge in 1876 and select preacher at Oxford in 1877. He was a student of Bacon and Shakespeare and in 1870 published the first edition of his *Shakespearian Grammar*, which was followed in the next year by *English Lessons for English People* in which his friend Prof. J. R. Seeley coöperated. He also prepared an excellent guide for teachers of the Bible called *Bible Lessons*, and in 1876 he produced the fullest and best edition of Bacon's *Essays* yet published. This volume developed an interesting controversy, one result of which was Abbott's *Francis Bacon, an Account of His Life and Works*, published in 1885. His *Through Nature to Christ, or Through the Illusion to the Truth*, published in 1877 evoked hostile criticism for its liberal attitude to theology. A number of important religious books followed of which *Onesimus* in 1882, and *Silanus the Christian* in 1906 showed historical imagination coupled with broad scholarship. In 1884 with W. G. Rushbrooke he produced the *Common Tradition of the Synoptic Gospels*, and in 1886 an interesting work known as *The Kernel and the Husk* dedicated "To the Doubters of this Generation and the Believers of the Next," a series of letters to a young friend treating the difficulties presented to a would-be believer by the miraculous elements in the Bible story. After leaving the City of London School he published *Philomythus* (1891); *Anglican Career of Cardinal Newman* (1892); *St. Thomas of Canterbury, His Death and Miracles* (1898); and a vast number of theological works. *The Fourfold Gospel*, and the *Founding of a New Kingdom* (1917).

**AB'YSSIN'IA.** A country in West Africa between the Anglo-Egyptian Sudan and the Red Sea comprising the provinces of Harar,

Equatorial Provinces, Gondar, Jimma, Wollo, Shoa, Sellale, Edjow, Wollaga, Guimira, Gojan, etc. The area has been variously estimated at from 350,000 to 430,000 square miles. The former figure is probably the more accurate. The most recent estimate of the population places it at about 10,000,000, although the Abyssinians, properly so called, number less than 3,500,000. They are Christians of Hamitic origin. The capital is Addis Abeba, with a population of from 60,000 to 70,000, of whom about 1000 are foreigners. The other chief city, Harar, has a population of about 40,000. Domestic slavery is a recognized institution, but slave trading, by an ancient law renewed by a decree issued in June, 1923, is punishable by death. In March, 1924, an edict was issued by Ras Tafari, providing for the gradual emancipation of slaves, beginning with the children born of slaves.

The backward methods of agriculture and the lack of adequate means of transportation have continued to retard economic development. The chief pursuits are agriculture and stock raising. The system of land holding is feudal and the soil theoretically belongs to the Negus or Emperor. The products include cotton, sugar cane, the date palm, coffee, and grapes, but with the exception of coffee, they are nowhere extensively raised. The production of the so-called Harari coffee is increasing from year to year. There is a wild coffee plant which is found especially in southern and western Abyssinia bearing a berry known as Abyssinian coffee of which the supply is said to be unlimited. Among the other native products are hides and skins, millet, wheat, barley, and tobacco, and there are valuable forests including rubber. In some districts iron is found and is used in the manufacture of native weapons. In the western districts the mining of gold has been carried on, and coal, copper, and sulphur are also found.

No reliable figures for exports and imports are available, but according to a British authority, they reach £2,500,000 annually. The chief exports are hides and skins, coffee, wax, ivory, civet, and native butter; and the chief imports, cotton shirting, cotton goods, liquors, railway materials, provisions, sugar, and petroleum. The principal line of trade is along the French-Ethiopian railway, but there is a considerable caravan trade in the interior. The imports came mainly from the United States, Great Britain, France, India, Italy and Japan. Trade with Great Britain in 1925 was: Imports

from Abyssinia, £119,057; exports to Abyssinia, £21,831.

The French-Ethiopian railway connects Djibuti in French Somaliland with Addis Abeba, a distance of about 495 miles. The line is of meter gauge. Trains run twice weekly covering the distance in three days. There are about 2000 miles of telegraph line and a few miles of telephone connection. In 1926 the Empress was still Waizeru Zauditu, daughter of the late Emperor Menelik. She was named Empress after the deposition of Lij Yasu in 1916; but the actual authority vests in Ras Tafari, great-nephew of Menelik, who had been proclaimed heir to the throne and who acts as Regent. In August, 1919, a modified form of cabinet government was introduced, but its powers are rather shadowy. On Sept. 28, 1923, Abyssinia was admitted into the League of Nations.

**HISTORY.** During the summer and fall of 1926 there was considerable discussion in the press concerning the economic aims of Great Britain and Italy in Abyssinia. A text of the notes that passed between the two countries with regard to concessions that were to be asked of Abyssinia was published in the summer. Italy has always had an interest in Abyssinia, although she has been rather chary of pressing her claims after the disastrous defeat she suffered in the Italian-Abyssinian War of 1896. In recent years Italy has had a strong desire to connect her two colonies of Eritrea and Italian Somaliland with rail communication. Great Britain has supported her in this desire and Italy, in turn, agreed to support her in an attempt to gain the concession from Abyssinia of the rights in Lake Tsana, the headwater of the Blue Nile. Great Britain wished to construct a dam to impound water for irrigation purposes in the Sudan. Italy sought as well an exclusive economic interest in the west of Ethiopia, and in the whole of the territory to be crossed by the above mentioned railroad.

France, which was a signer of the agreement of 1906 with Italy and Great Britain concerning the spheres of influence in Africa, showed no outward interest in the move of Italy and Great Britain, although under the terms of the 1906 arrangement she would have to be consulted. Abyssinia protested to the League of Nations, on the ground that the proposed agreement would seriously impair her sovereignty which was recognized when she was admitted to membership in the League. Her note to the League ended by stating "Throughout our history we have seldom met foreigners who did not desire to possess themselves of Abyssinian territory and destroy our independence."

In commenting upon the subject in Parliament, Sir Austen Chamberlain stated on August 2, that Great Britain had an agreement with the late Emperor Menelik giving her (Great Britain) preference when the time came to deal with the Lake Tsana question. Negotiations with Ras Tafari had failed to produce any results, although the question became more and more pressing. Consequently he communicated with France and Italy with the above mentioned result. The agreement with Italy had no political significance and was merely an arrangement to prevent competition between the two countries. He concluded by saying that there was absolutely no question of national sovereignty involved.

On August 14, the Italian government sent a

note to the League stating that no attack was being made on Abyssinia's sovereignty and that the measures suggested would be of material economic and industrial benefit to Abyssinia. The complaint of Abyssinia was not presented to the assembly of the League. The press reported that a settlement had been reached whereby the concessions were granted in return for a loan.

During the year an expedition sponsored by the Field Museum, the Chicago *Daily News* and the North American Newspaper Alliance was exploring in Abyssinia.

**ACADEMY, FRENCH** (ACADÉMIE FRANÇAISE). The oldest of the five academies which make up the Institute of France, and officially considered the highest; founded in 1635, reorganized in 1816. The list of the Immortals at the beginning of 1926 was as follows: Paul Bourget; Gabriel Hanotaux; Henri Lavedan; René Bazin; Maurice Donnay; Jean Richepin; Raymond Poincaré; Eugène Brieux; R. Doumic; Marcel Prévost; Henri de Régner; Maréchal Lyautey; H. R. D. Cochin; Pierre de la Gorce; Henri Bergson; Maréchal Joffre; Louis Barthou; Monsignor Baudrillard; René Boylesve-Tardieu; François de Curel; Jules Cambon; Georges Clemenceau; Maréchal Foch; H. Bordeaux; Robert de Flers; Joseph Bédier; André Chevrillon; Pierre de Nolhac; Georges Goyau; Georges de Porto-Riche; Edouard Estaunié; Maître Henri Robert; Charles Jonnart; Abbé Bremond; Georges Lecomte; Emil Picard; Albert Besnard; Paul Valéry; Auguste Armand Ghislain Marie Joseph Nomphe de Caumont; Duke de la Force; and Louis Bertrand.

See FRENCH LITERATURE.

**ACADEMY OF ARTS AND LETTERS, AMERICAN.** A society founded in 1904 by members of the National Institute of Arts and Letters, and incorporated and given a charter by Act of Congress approved April 17, 1916. The purposes of the organization are the furtherance of the interests of literature and the fine arts. The membership is limited to 50 chairs, similar to that of the French Academy, and vacancies caused by death are filled by election by the members from the National Institute on the basis of lifetime achievement in literature, painting, sculpture, architecture, and music. There were two vacancies in 1926, caused by the deaths of Joseph Pennell, died April 23, and Stuart Sherman, died August 21. On April 23, at an adjourned annual meeting, Edwin Anderson Alderman and Edward Channing were elected to membership. At the annual meeting on November 11 there were two more elections to membership, Wilbur L. Cross and Hermon A. MacNeil. In addition to the four named, the membership in 1926 constituted the following, in order of election: Daniel Chester French; James Ford Rhodes; William Milligan Sloane; Robert Underwood Johnson; Henry van Dyke; William Crary Brownell; Arthur Tving Hadley; Edwin Howland Blashfield; Thomas Hastings; Brander Matthews; George Edward Woodberry; George Whitefield Chadwick; George de Forest Brush; William Rutherford Mead; Bliss Perry; Abbott Lawrence Lowell; Nicholas Murray Butler; Owen Wister; Herbert Adams; Augustus Thomas; Timothy Cole; Cass Gilbert; Robert Grant; Frederick MacMonnies; William Gillette; Paul Elmer More; Gari Melchers; Elihu Root; Brand Whitlock; Hamlin Garland; Paul Shorey; Charles Adams Platt;

Archer Milton Huntington; Childe Hassam; David Jayne Hill; Lorado Taft; Booth Tarkington; Charles Dana Gibson; John Charles Van Dyke; Royal Cortissoz; Albert J. Beveridge; Henry Hadley; Charles Downer Hazen; and George Pierce Baker.

At a public meeting held on April 23, 1926, the Academy presented to Miss Cecilia Beaux its gold medal for painting and to Mrs. Mary E. Wilkins Freeman the Howells gold medal for fiction. These medals had been awarded at the annual meeting in November, 1925. At this time also, there was unveiled a bronze bas-relief of William Dean Howells sculptured by Miss Brenda Putnam and presented to the Academy by one of its members.

The Directors of the Academy in 1926 were: President, William Milligan Sloane; Chancellor, Nicholas Murray Butler; Secretary, Robert Underwood Johnson; Treasurer, Thomas Hastings; Hamlin Garland, Cass Gilbert, Archer Milton Huntington, Brander Matthews, and Augustus Thomas. The Academy has headquarters in its building at 633 West 155th Street, New York.

**ACADEMY OF INTERNATIONAL LAW.** See INTERNATIONAL LAW.

**ACADEMY OF SCIENCES.** See NATIONAL ACADEMY OF SCIENCES.

**ACCIDENTS.** See RAILWAY ACCIDENTS; SAFETY AT SEA.

**ADAMI, JOHN GEORGE.** British pathologist and former Professor of Pathology in McGill University at Montreal, Canada, died August 29. He was born at Manchester, England, Jan. 12, 1862, and was educated at the Owens College, Manchester and at Christ's College, Cambridge, where he received honors in science. After studying at the Universities of Breslau and Paris he became house physician at the Manchester Royal Infirmary and demonstrator of pathology at the University of Cambridge in 1887. He was John Lucas Walker Student of Pathology in 1890, and fellow of Jesus College in 1891. In 1892 he became Strathcona Professor of Pathology and Bacteriology at McGill University, Montreal, Canada, serving also as advisory pathologist to the Montreal General and Royal Victoria Hospitals. In 1919 Dr. Adami was chosen Vice-Chancellor of the University of Liverpool, a position he occupied at the time of his death. He served as president of the Association of American Physicians, 1911-12, and of the Canadian Association for the Prevention of Tuberculosis, 1909-12. He was also president of the Montreal City Improvement League, 1909-16, and of the Montreal Child Welfare Exhibition in 1912. He was connected with the Canadian Expeditionary Force as medical historical recorder with the rank of colonel in the Canadian Army Medical Corps. In 1919 he was made Commander of the Order of the British Empire. He received the degrees of M.D. (honorary) from Belfast University in 1921; LL.D. from the University of New Brunswick in 1900; and from the University of Toronto in 1912. He was a fellow of the Royal Society, of the Royal College of Physicians of London, the Royal College of Surgeons in England, and of other societies in Great Britain and Canada. He wrote a number of authoritative works and papers of which the most significant were: *The Principles of Pathology* (1908); *Medical Contributions to the Study of Evolution* (1918); *Charles White of Manchester, and the Prevention of Puerperal Fever* (1922).

**ADELBERT COLLEGE.** See WESTERN RESERVE UNIVERSITY.

**ADELPHI COLLEGE.** A non-sectarian college of arts and sciences for women, at Brooklyn, N. Y.; incorporated in 1896. In the autumn of 1926 there were 540 students in the regular courses leading to the B.A. degree, distributed as follows: seniors, 108; juniors, 135; sophomores, 148; freshmen, 149. There were also 90 others in extension courses. The summer school registration was 104. The faculty numbered 36, three additions having been made, as follows: an instructor in English, an assistant in mathematics, and an assistant in biology. The income for the year was \$153,096.88. The library contained 18,339 volumes. President, Frank Dickinson Blodgett, A.M., LL.D.

**ADEN, id'en or a'den.** A volcanic peninsula on the Arabian coast belonging to Great Britain; about 100 miles east of Bab-el-Mandeb. Area, 75 square miles: including the protectorate, about 9000 square miles. The settlement comprises also the peninsula of Little Aden, and some villages on the mainland, and the island of Perim, the last named having an area of 5 square miles. In 1921 the population of Aden and Perim was 54,923, of whom 80 per cent were Mohammedans. The population of the protectorate was about 100,000. The manufactures, which are unimportant, consist chiefly of salt and cigarettes.

Aden is the principal commercial centre of the Arabian peninsula and the entrepôt for the Red Sea markets of Abyssinia, Eritrea, and Somaliland. During the year the number of ships using the port steadily increased. Its importance as a fueling station can scarcely be shaken, owing to its position halfway between Europe and the Orient and to its low prices for fuel, oil being imported free of duty and coal obtained cheaply from South Africa. The imports for the 1925-26 period amounted to \$32,032,000 and the exports to \$26,756,000. A large amount of this commerce represents transhipped goods. The chief imports are cotton piece goods, grain, coal, coffee, sugar, hides and skins, tobacco, fruit, vegetables, and other provisions; and among the chief exports, coffee, gums, hides and skins, cotton goods, tobacco, grain, sugar, and provisions. In 1924-25, 1315 merchant vessels of 4,255,233 tons entered the port of Aden; 698 of these were British.

Attached to Aden are the Kuria Muria islands off the Arabian coast, five in number, ceded by the Sultan of Muskat. Aden is under a British political resident with four assistants, the British Colonial Office having charge of all political questions and the British War Office of military questions. Political resident and general officer commanding in 1926, Maj.-Gen. J. H. K. Stewart.

**ADLER, Ad'ler, JACOB P.** Yiddish actor, died in New York, March 31. He was born on Jan. 1, 1855, at Odessa, Russia, and was to all appearances the usual Jewish boy destined to perform the same rôles as his neighbors. His life was uneventful until a Jewish troupe from Roumania came to Odessa in 1875, and by their spirited representation of Jewish psychology fired young Adler to imitate them. From this time he determined to devote all his energies to becoming an actor that he might put before others the innermost feelings of his people. His first appearance was at Kherson, Russia, and from the outset he was hailed as

a skillful interpreter of the sentiment of the Russian Ghetto. This was in 1878 and he never looked back. So eloquent were his presentations and so telling his gibes at the overlords that he contributed, in no small measure, to the putting into effect, in 1883, of the Russian Government's prohibition of all Jewish. Finding his living gone and his very idealism threatened, Adler emigrated to London in 1883 and stayed there nearly five years. He removed to New York in February, 1888, and became almost instantly one of the leading actors of the American Yiddish Jewish stage.

**ADULT EDUCATION, AMERICAN ASSOCIATION FOR.** An organization formed in 1926 to serve as a clearing house of adult education activities, to help those already working in this field, and to advise others how to start. The formation of this association followed two years of preparatory work, which included a series of conferences of educators in different parts of the country and a survey of existing efforts in adult education conducted by the Carnegie Corporation of New York. These preliminary investigations showed that more than 3,000,000 men and women in the United States, more than in all the colleges and universities combined, were pursuing some kind of education after working hours, either by correspondence, under public library guidance, or in university extension classes, workers' classes, folk schools, institutes or museum classes, and that in such institutions a new theory and practice of education is being worked out, with its own problems, methods, and literature.

Certain means of accomplishing the Association's object were planned: the collection of a central reference library for professional workers in the field; services to be offered to existing national organizations in the field; the formation of additional organizations, if and when the need should arise; a publication programme, to begin with occasional bulletins, with possible enlargement later into a quarterly or monthly periodical; affiliation with similar associations in Europe; maintaining teacher-training courses in adult education.

One significant step had already been taken by the end of the year, namely the opening of the following four teacher-training courses at the New School for Social Research, New York City: "Fundamental problems in adult education," by Everett Dean Martin, director of the People's Institute; "Method and content of adult education," by E. C. Lindeman; "A practice course in adult education," by Harry A. Overstreet; "Educational psychology," by Leta S. Hollingsworth. Publication of a series of studies on adult education made under the auspices of the Carnegie Corporation of New York had begun. Five volumes issued were: *Libraries and Adult Education*, American Library Association; *New Schools for Older Students*, Nathaniel Peffer; *Educational Opportunities for Young Workers*, Owen D. Evans; *The University Afield*, Alfred L. Hall-Quest; *Correspondence Schools, Lyceums, Chautauques*, John S. Noffsinger.

Membership in the Association is open to individuals or groups interested in adult education. It depends for its financial support upon dues from members, and upon the interest of private individuals and of educational foundations. The officers of the Association in 1926

were: President, Dean James E. Russell, of Teachers College, Columbia University; vice-president, Prof. Leon J. Richardson, University of California; treasurer, J. H. Puelicher, American Bankers' Association, Milwaukee; secretary, Miss Margaret Burton, National Board of the Young Women's Christian Association, New York; executive director, Morse A. Cartwright, New York. The foregoing with fourteen other members composed the executive board of the association. National headquarters, which were opened formally Oct. 18, 1926, are at 41 East 42d Street, New York City. See also EDUCATION IN THE UNITED STATES.

**ADVANCEMENT OF SCIENCE, AMERICAN ASSOCIATION FOR THE.** Founded in 1848 to advance science, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. In 1926 its membership included over 14,000 individuals interested in the advancement of science and the progress of knowledge and education, 112 autonomous and independent associated scientific societies of which 81 were officially affiliated with the Association, and 21 local academies of science and learning. The direction of the association rests in a council consisting of the officers, representatives of the affiliated societies and academies, and eight members elected at large by the council. It holds an annual meeting at the same time as the association and operates in the interim through an executive committee. The activities of the association are of three kinds: Those related to the holding of the annual and other meetings; those related to publications; and those related to the advance of knowledge by research. It has 15 sections representing the main current subdivisions of science, as follows: Mathematics, physics, chemistry, astronomy, psychology, social and economic sciences, historical and philological sciences, anthropology, geology, zoological sciences, botanical sciences, engineering, medical science, agriculture, and education.

The official organ of the association is a weekly journal, *Science*, which furnishes an open forum for the discussion of questions regarding science and education, almost every branch of scientific knowledge being represented in its columns. In addition the association issues an elaborate programme for the annual meeting. The permanent endowment of the Association, the income from which is employed to advance scientific research, amounted in 1926 to \$140,876.66; grants are made annually to individuals or scientific organizations to promote research. Two regional divisions are conducted by the Association: The Pacific Division, including the Pacific States, Alaska, the Philippines, and the Hawaiian Islands, and the Southwestern Division, including Arizona, New Mexico, Colorado, western Texas, and northern Mexico. These divisions are autonomous, holding annual and other meetings and engaging in other projects in their respective fields.

The eighty-third meeting of the Association convened in Philadelphia, December 27, 1926, to Jan. 1, 1927, with an attendance of about 3200, this being one of the larger meetings. Forty-three associated societies met with the Association and 222 sessions were held, at which 1449 papers and addresses were read. The science exhibition was well developed, with exhibits by

commercial firms as well as by individual research workers and research institutions and laboratories. The retiring president, Dr. Michael I. Pupin of Columbia University, delivered the annual presidential address, speaking on "Progress in Electrical Communication during the Last Fifty Years." Dr. Liberty Hyde Bailey of Cornell University, the botanist and horticulturist was president of the Association at this meeting. Previously a summer session of the Association had been held at Oakland, Calif., in conjunction with the Pacific Division, June 16-18.

The annual Association prize of \$1000 was awarded to Dr. George D. Birkhoff of Harvard University for his outstanding contribution to our knowledge of the mathematical relations of physical theory. The standing committee of the Association on the place of the sciences in education, with Dr. Otis W. Caldwell of Columbia University as chairman, was making a survey of this subject. There was also a committee of 100 on general scientific research, the secretary of which was Dr. Rodney H. True of the University of Pennsylvania. The permanent secretary of the Association is Dr. Burton E. Livingston of Johns Hopkins University, from whom information regarding the organization may be secured by addressing him at the headquarters of the Association, Smithsonian Institution Building, Washington, D. C. The president of the Association elected for 1927 was Arthur A. Noyes, director of the Gates Chemical Laboratory, California Institute of Technology. The 1927 meeting was to be held December 26 to 31 at Nashville, Tenn.

**ADVANCEMENT OF SCIENCE, ASSOCIATIONS FOR.** The American Association for the Advancement of Science (q.v.) held its 1926 meeting in Philadelphia, Pa., Dec. 27, 1926 to Jan. 1, 1927. A summer session was also held at Oakland, Calif., in connection with the Pacific Division, June 16-18. The British Association for the Advancement of Science (q.v.) met at Oxford August 4-11. The Indian Scientific Congress met at Bombay in January; the Australian Association for the Advancement of Science met at Perth, West Australia, August 23-28; the French Association for the Advancement of Science at Lyons, July 26-31; and the German Association of Scientists and Physicians at Dusseldorf, September 19-26.

**ADVENT CHRISTIANS.** See ADVENTISTS.

**ADVENTISTS.** The Advent movement had its origin with William Miller, who believed not only in the coming of Christ in person, power, and glory, but that such an advent was at hand and that the date might be fixed with some definiteness. The first general gathering of those interested took place in Boston, October, 1840, the movement at that time being wholly within the existing churches, but in April, 1845, a conference was held at Albany, N. Y., at which the adherents of the Adventist doctrine were organized and a declaration of principles was adopted, embodying the views of Mr. Miller. For the next ten years this organization included practically all the Adventists, but gradually separate bodies developed, beginning with the Adventist Christian Church, in 1855, and including the Seventh-Day Adventists, organized in 1860; Life and Advent Union, in 1864; The Church of God (Adventists), in 1866; and The Churches of God and Christ Jesus, in 1888.

**ADVENT CHRISTIAN CHURCH.** This church,

which is congregational in church government, holds simply to the idea of the imminence of Christ's return but takes the position that the day cannot be determined. It holds a biennial general conference, that of 1926 having been held in June, at Alton Bay, N. H. Statistics of 1925, covering 46 conferences, showed 537 churches; 528 ordained ministers; 137 licensed ministers; 28,297 church members; 289 Sunday schools; 15,435 Sunday school members; 138 local societies, with 4758 members. Sixteen conferences are not included in these totals. The denomination maintains four publication societies and two educational institutions, Aurora College at Aurora, Ill., and the New England School of Theology in Boston. Periodicals published include the *World's Crisis* (Boston), *Messiah's Advocate* (Oakland), *Our Hope* (Mendota, Ill.), and *Present Truth Messenger* (Live Oak, Fla.). Among the philanthropic institutions of the denomination are The American Advent Christian Home and Orphanage at Dowling Park, Fla., and the Vernon Home for ministers and missionaries at South Vernon, Mass. The Reverend George A. Osman was general director in charge of the headquarters at 160 Warren Street, Boston 19, Mass.

**SEVENTH-DAY ADVENTISTS.** In 1925 this was the largest denomination of the Adventist group and embraced 12 union conferences in the United States and Canada. This denomination believes that the seventh day of the week from sunset on Friday to sunset on Saturday is the Sabbath established by God's law and that immersion is the only proper form of baptism. The local church is congregational in government, though under the general supervision of the conference. The statistical report of the denomination for 1925 indicated 2239 churches in the North American Division, 836 ordained ministers, and 108,802 church members. Sabbath schools numbered 2712 and the membership 116,238. Figures for the foreign divisions were: 3390 churches, 837 ordained ministers, 142,186 church members, 5245 Sabbath schools, with an enrollment of 171,514. The movement maintained in the United States and Canada 68 educational institutions, which in 1925 had 11,933 students enrolled. Of the colleges and seminaries, Loma Linda Medical College, Calif., and Pacific Union College, St. Helena, Calif., were the largest. There were also 80 educational institutions maintained in foreign countries. The denomination had 18 publishing houses in North America, and 35 in foreign countries. Denominational literature was issued in 128 languages. Evangelistic work was conducted in 124 countries. Periodicals of the movement include: *Advent Review and Sabbath Herald* (Washington); *Signs of the Times* (Mountain View, Calif.); and *Watchman* (Nashville, Tenn.).

**AERONAUTICS.** It was generally admitted that the year 1926 was one of the most significant in the history of aeronautical development for the indications were clearer than ever before that aviation and especially transport aviation, had reached a commercial status, with a promise of future usefulness far greater than ever previously had been realized. In Europe, by liberal subsidies, there had been an increase of air routes, and of extensively advertised and used passenger transportation facilities, along with mail carrying. This had led to the improvement of machines and increase in capacity and

engine performance. In America, on the other hand, with aviation unsubsidized, the transportation of mail was the most prominent feature, but along with it was a large amount of civil flying, which was said to be, in the aggregate, far greater than that done in Europe although the fact was not always recognized either in Europe or in the United States. The transfer of the carrying of the air mail from the United States Government to private operators, decided upon during the year, was an important event with a distinct bearing on the future development of air transport.

Furthermore, in the United States the passage of legislation putting aviation under Federal supervision and the passage of the Army and Navy air bills providing for the regular development of aircraft in these services indicated that the Government was seriously engaged in the furthering of the aircraft industry and air travel in general and also sought to protect the people from the various conditions that had arisen or were likely to arise, where government supervision was essential.

In 1926 it was becoming evident that moneyed interests in the United States were ready to invest capital in air transportation and substantial companies were organized for that purpose and were anxious to compete for carrying mail and freight. In November for example, a contract was signed between an air transportation company, special arrangements being concluded in one case between the National Transport Company, Inc., and the American Express Co. for the rapid conveyance of express packages by airplane between New York and Chicago and Chicago and Dallas, Tex., saving one full day en route. The express company was to pick up and deliver the packages at the respective ends of the trip, while the plane transport company would do the actual carrying.

All of this tended to stimulate the progress of design, and in the United States in particular, it was felt that new commercial planes were being evolved independent of military models. Furthermore, the surplus planes of War days and the engines and other equipment of that time were ceasing to be used and new models as developed were finding application. With the U. S. air mail advertising for contract operation it was beginning to be realized that there was an open field where the most efficient and most economical planes would survive when operated most efficiently and economically.

At the end of 1926 between 3500 and 5000 airplanes were in commercial use in the United

States in addition to the huge fleet of airplanes used in air mail transportation. These air mail planes were flying approximately 6,000,000 miles a year over existing routes which totaled some 9450. Some 290 private operators in 1926 had flown considerably more than 5,000,000 miles with passengers in addition to an enormous mileage flown in miscellaneous service. At the end of the year there were 3608 landing fields in the United States, of which 255 were regularly appointed commercial fields, 310 regular municipal fields, and 2762 were emergency fields. The remainder belonged to the Army, Navy, air mail, and sea plane operators.

### BALLOONS

**NATIONAL BALLOON RACE.** The National Elimination Balloon Race, which annually selects the entries from the United States for the Gordon Bennett Cup Competition, took place at Little Rock, Ark., under ideal weather conditions, on April 29th. In this competition, the Litchfield trophy, presented by Paul W. Litchfield of the Goodyear Tire and Rubber Company, was offered for the successful balloon. At the time of the start there was a brisk southwest wind blowing and after the *Arkansas Gazette* pilot balloon, *Skylark*, cast off at 4.25 P. M., the nine contestants left the airport at five-minute intervals between 5 and 5.40, and proceeded to the northeast. Each balloon rose rapidly, clearing the airport enclosure at a height of from 400 to 1000 feet. The race again was won by Ward T. Van Orman, winner of the 1924 and 1925 elimination contests. He flew 848 miles, landing about 8 miles south-southwest of Petersburg, Va., in order to avoid being blown out to sea. Second in the competition was the *S-23* of the United States Army Air Service, piloted by Captain H. C. Gray, which made 635 miles, landing 7 miles north of Mt. Holly, N. C., and third place with 627 miles was taken by the *Akron N.A.A.*, piloted by John A. Boettner, which landed 1.5 miles north of Kimball and 7 miles northeast of Welch, W. Va. The pilots carried provisions for 48 hours and were equipped for sea-flying, each basket being lined or covered with rubber fabric and carrying either pneumatic pontoons or pneumatic boats and life-preservers. Each balloon had a radio set, including a loud speaker, so that the pilots were able to know the location of the various craft through a system of broadcasting from various radio stations. The details of the competition are given in the accompanying tabulation.

<i>Names of Pilot and Aide</i>	<i>Entrant</i>	<i>Name of Balloon</i>	<i>Landing Point</i>	<i>Distance in miles</i>
1. Ward T. Van Orman (W. W. Morton)	Goodyear Tire & Rubber Co., Akron, Ohio.	<i>Goodyear IV</i>	8 mi. South-SE of Petersburg, Va. ....	848
2. Capt. Hawthorne C. Gray (D. Johnston)	U. S. Army Air Service, Scott Field, Illinois	<i>S-23</i>	7 mi. North of Mount Holly, N. C. ....	635
3. J. A. Boettner (H. W. Maxson)	Akron Chapter N.A.A., Akron, Ohio	<i>Akron N.A.A.</i>	1.5 mi. North of Kimball, W. Va., and 7 mi. NE of Welch, W. Va. .	627
4. Lt. James F. Powell (Lt. James F. Early)	U. S. Army Air Service, Phillips Field, Md.	<i>S-21</i>	12 mi. due North of Hickory, N. C. ....	618
5. Herbert V. Thaden (C. D. Williams)	Detroit Flying Club, Detroit Aviation Society	<i>Detroit</i>	8 mi. W. of Guinere, Kentucky .....	574
6. Lt. Wm. A. Gray (Lt. Rowland Kieburts)	U. S. Army Air Service, Langley Field, Va.	<i>S-20</i>	Reedville, Ky., in Carter County .....	570
7. Svend A. U. Rasmussen (Edward J. Hill)	Detroit Aircraft Club, Detroit, Mich.	<i>Detroit Aircraft</i>	8 mi. W. of Blaine, Kentucky .....	566
8. Capt. Lawrence F. Stone (Capt. G. R. Oatman)	U. S. Army Air Service, McCook Field, Dayton, Ohio	<i>S-19</i>	1.5 mi. E. of Willow, Ky., and 7 mi. SE of Heidelberg, Ky. ....	510
9. Walter A. Ham (Robt. P. Lehr)	Walter A. Ham, Los Angeles, Calif.	<i>Goodyear Southern California</i>	5 mi. E. of Broadhead, Kentucky .....	473
10. W. O. Naylor (K. W. Warren)	The Arkansas Gazette, Little Rock, Ark.	<i>Skylark (pilot balloon)</i>	4 mi. N. of Crawford in Overton City, Tenn.	410



**THE GORDON BENNETT CUP RACE.** The annual race for the Gordon Bennett Cup took place at Antwerp, Belgium, May 30, with fourteen balloons, representing seven different nations. The original Gordon Bennett Cup previously had been won by Belgium outright in 1923, but a new cup was presented by the King of the Belgians, to replace the original trophy that had figured in so many competitions for aerostats or free-flying balloons. In this year's contest the Spanish entry and two French balloons could not get away on account of accidents of a minor nature and consequently did not figure in the competition. Leaving Antwerp the competing balloons were driven by a southwesterly wind which scattered them over Holland, Denmark, Norway, and Sweden. The race was won by the United States in the balloon *Goodyear III*, piloted by Ward T. Van Orman, which flew a distance of 534.9 miles and landed at Solvesborg, Sweden. Second place was also taken by the United States, with the U. S. Army balloon *S 16*, piloted by Captain H. C. Gray, which flew 372.2 miles and landed at Krakow, Poland. Third place was taken by the Belgian balloon *Belgica*, piloted by E. Demuyter, with 270.3 miles, which landed at Bliedersdorf, Hamburg, Germany. The accompanying tabulation gives the official results of the race.

to Detroit via Pittsburgh and Akron with its regular crew of 12 officers, 13 engineers, 15 riggers, two radio men, one cook, and one moving picture operator. The trip and its return were made without special incident, and the mooring mast in Chicago functioned properly.

**BRITISH AIRSHIPS R 100 AND R 101.** During the year the Royal Airship Works of the British Government near Bedford had under way new airships of 5,000,000 cubic feet capacity, which were designed to bring Australia in point of time to within 12½ days travel of England, South Africa within 6 days, Canada within 2½ days, and India within 5 days. The new State airship, *R 101*, as it was designated, the first to be started, was 730 feet long and was to have a gross lift of 150 tons, of which about 70 tons was to be available for fuel, water, crew, freight, and passengers. It was to be driven by five crude-oil engines aggregating 3000 horse power, and would fly at a minimum top speed of 70 miles per hour at 5000 feet. It would be able to cruise for 4000 miles at a speed of 63 miles per hour without re-fueling, and would carry approximately 100 passengers, freight, and 10 tons of mail. The airship was designed with all the accommodations of an ocean liner, with promenade decks, lounge, dining room, smoking room, and two and four berth cabins. At the

No.	Balloon	Country	Pilot	Aide	Landing	Km.	Miles
1.	<i>Goodyear</i>	United States	W. T. VanOrman	W. W. Morton	Solvesborg, Sweden . . .	861	534.9
2.	<i>Army S-16</i>	United States	Capt. H. C. Gray	Lt D. Johnston	Krakow, Poland . . . . .	599	372.2
3.	<i>Belgica</i>	Belgium	E. Demuyter	Lieutenant Valette	Bliedersdorf, Hamburg, Germany . . . . .	435	270.3
4.	<i>Prince Leopold</i>	Belgium	A. Veenstra	P. Quersin	Gross Roscharden, Oldenburg, Germany . . . . .	298	185.1
5.	<i>Miramar</i>	Great Britain	Captain Spencer	C. W. Berry	Epse-lex Deventer, Holland . . . . .	169	105.0
6.	<i>Penaranda</i>	Spain	B. Molas	Prados Pena	Uddel, Holland . . . . .	153	95.0
7.	<i>Helvetia</i>	Switzerland	Capt. O. Bachman	E. Magg	Harskamp, Holland . . .	142	88.2
8.	<i>Picardie</i>	France	Bienaimé	Ravaino	Culemborg, Holland . . .	102	63.3
9.	<i>Baushee III</i>	Great Britain	F. A. Baldwin	H. Spencer	Veghel-Boxtel, Holland .	93	57.7
10.	<i>Bee</i>	Great Britain	Captain Meager	M. F. Steff	Vryhoevecapelle-Walwick, Holland . . . . .	69	42.8
11.	<i>Aerostiers I</i>	Belgium	Captain Matton	Lieutenant Chamart	Tilburg, Holland . . . . .	66	41.0
12.	<i>Aerostiers III</i>	Italy	Lieutenant Pirazzoli	Lieutenant Pisani	Zundert, Holland . . . . .	36	22.3
13.	<i>Ciampino V</i>	Italy	Captain Tombesi	Major Pomarici	Westwezel, Belgium . . .	33	20.5
14.	<i>Ciampino III</i>	Italy	Captain Ilari	Captain Sivieri	Westwezel, Belgium . . .	31	19.2
<b>Disqualifications</b>							
	Akron N.A.A.	United States	J. A. Boettner	H. W. Maxson	Aide thrown from basket.		
	<i>Vicillee Tiger</i>	France	G. Blanchet	Arnaud	Equipment damaged during inflation.		
	<i>Anjon V</i>	France	Cormier	—	Equipment damaged during inflation.		

#### AIRSHIPS

**AIRSHIPS.** In the United States Naval Air Bill of 1926 provision was made for the construction of two rigid airships of six million cubic feet capacity and it was believed that this would afford an opportunity thoroughly to test the subject in the view of previous experience. The Bureau of Naval Aeronautics considered the matter quite thoroughly and was prepared to call for detailed plans and specifications from leading designers and manufacturers, but the appropriation bill itself did not carry with it funds and the matter was put forward.

**FLIGHT OF LOS ANGELES.** Among the flights made by the U. S. airship *Los Angeles* during the year was one to the National Air Races at the Philadelphia Sesquicentennial, where the ship arrived on Friday, September 10, and was brought to the ground for the first time at any other place than the home station at Lakehurst, the landing being successfully accomplished with the aid of the local detachment of seamen. Later in October the *Los Angeles* flew from Lakehurst

end of the year many of the component parts had been fabricated and it was expected that the main frame could be assembled within a few months, so that the airship would be completed at the end of 1927 or the beginning of 1928, by which time it was hoped that the various Dominion governments would provide mooring masts for its accommodation.

**ZEPPELIN AIRSHIPS.** With the prohibition removed from the manufacture of large airships in Germany, this industry in 1926 again began to assume importance. The Spanish Government ordered from the Zeppelin Company the largest airship of this type ever constructed, to cost 30,000,000 pesetas, and capable of flying from Seville, Spain, to Buenos Aires in the Argentine Republic. Later an attempt to fly around the world might be attempted by this ship. At the end of the year the *Z-127* was almost ready for use in the Spain-Argentine route. This airship was driven by seven engines and had a volume of 105,000 cubic meters, being 250 meters long, 31 broad, and able to carry 15 tons,

A new German super-Zeppelin of 3,700,000 cubic feet capacity was also under construction for an experimental transatlantic service and was progressing rapidly. In this ship the power was to be supplied by five 420 horse power Maybach engines, specially designed to burn carbonated hydrogen, a new fuel having the chemical formula  $\text{CH}_4$ , which was claimed to be lighter and more efficient than either gasoline or benzol. The products of combustion include water vapor, which, after the explosion in the cylinders, passes through the exhaust, condenses in tanks, providing ballast and water to replenish the cooling system. This water would compensate in part for the loss of weight from fuel consumed, and would obviate the necessity of wasting valuable inflating gas when ascending to high altitudes.

#### AIRPLANES

**AIRPLANE DESIGN.** While there were a number of large planes developed during the year the most striking progress, perhaps, was in light commercial planes which were brought to a point of greater efficiency and economy. Increased use of metal, welded metal frames and more reliable and efficient engines and manufacture continued to be leading characteristics of 1926 production and with these went their sale at reduced prices.

The tendency toward developing large planes was shown both in the bombing planes for military service and in those developed for passenger or freight transportation on established air routes. In the United States a new type of bombing plane built for the War Department was put in service during the year, being developed by the Huff-Daland Airplanes, Inc. This plane weighed approximately 8000 pounds without munitions, crew, gasoline, or other load, but when fully loaded it would carry 4000 pounds of bombs, munitions for two machine guns, 2500 pounds of fuel, and approximately 1000 pounds of personnel and equipment necessary to flight and combat, making a total weight of 16,000 pounds. In other words, 50 per cent of the final flying weight was useful, so that the plane had important military advantages. The spread of wing in the new bomber was 85 feet and the fusillage measured 65 feet in length. It was equipped with an 825 h.p. V-2500 engine.

Another large airplane was built in Germany at the Junkers Works, and was known as the *G-31*, or "Junkers Omnibus," being a three-engine monoplane built to carry 25 passengers and a crew of four. It was equipped with three 400 horse power Junkers L-5 engines. The plane was designed to afford comfortable sleeping accommodations, in addition to other compartments, and more space was provided for freight than in any plane built up to that time. Tests were being carried on with this machine through the latter part of the year.

**SIKORSKY AEROPLANE.** Ill fortune attended the giant Sikorsky Aeroplane *S 35*, built by the Sikorsky Aero-Engineering Corporation to make the flight between New York and Paris in a single stage to win the prize of \$25,000 offered by Raymond Orteig. The actual course as laid out was about 3600 miles, but fuel, oil, and other supplies were provided for a flight of 4330 miles, and it was believed that at an average speed of 100 miles per hour, the flight could be accomplished in about 1-1/2 days, though head winds or bad weather would necessitate longer

flying. The Transatlantic *S 35 Special* was designed as a passenger and freight carrier and was equipped with three Gnome-Rhône-Jupiter engines of French manufacture driving tractor propellers and developing 42 horse power each.

The Sikorsky-35 was duly assembled and had several test flights, one of which extended as far as Washington, D. C., and on its return included a flight across the flying field at Philadelphia. There developed, however, a lack of harmony in the enterprise, but after considerable discussion and differences of opinion and responsibility, the flight was set for September 21st. The plane had hardly left the flying field when it crashed to the ground and the mechanic and radio operator perished. Captain Fonck and his American alternate pilot, Lieutenant Lawrence W. Curtin, leapt clear of the blaze. The plane, however, was a total wreck.

**ENGINE DEVELOPMENT.** During 1926 the number of thoroughly reliable engines increased, several types of which were new developments, and for the first time the American aircraft industry was independent of the Liberty and other engines left over from the World War. For example, in the Airplane Reliability Tour for the Ford trophy, of twenty-seven planes entered only six failed to complete the tour, which was carried through on schedule. The engines used on these planes included such types as the Ford-Stout three-engine installation, the Ford-Stout single engine, and the 200 horse power Wright-Whirlwind air-cooled radial engine. The last-named engine also figured in the airplane used by Lieutenant-Commander Byrd, U.S.N., in his 16-hour flight to the North Pole, and also in a number of planes at the National Air Races in Philadelphia and at the Denver Mile-High Air Meet.

Another air-cooled engine developed during the year was the Pratt and Whitney Wasp, a nine-cylinder radial air-cooled engine rated at 400 horse power and operating at a normal high speed of 1900 revolutions per minute. The dry weight of this engine, including all accessories except the starter, was 650 pounds, or a little over 1.6 pounds per horse power, and it is interesting to note that with approximately the same horsepower as the Liberty engine there was a reduction of something like 200 pounds in dry weight. This engine was developed by the Pratt and Whitney Aircraft Company, in cooperation with the Bureau of Aeronautics of the United States Navy, and was adopted for use with pursuit and other planes in accordance with the policy of using air-cooled engines on airplanes going to sea with the fleet.

Another development of the year was the Curtiss V-1550 700 horse power water-cooled engine, which was a development from the Curtiss D-12 engine which previously had set a standard in high-powered, water-cooled engines. This engine was used in Lieutenant Cuddihy's plane at the Schneider Cup Race at Hampton Roads in November, but, unfortunately, was not shown to its best advantage, as a faulty gasoline pump caused the engine to run dry and let the aviator down, although he had made as high as 242 miles per hour in one of his laps over the course. The Packard engines in new models were produced during the year, in addition to the inverted engine, and functioned satisfactorily.

In Europe as well as in America the air cooled radial engine was coming into wider use

during the year and one type in France was fitted into about half of the airplanes exhibited at the Paris Aero Show in December. In addition, British, Italian, and Czechoslovak designers and manufacturers all were turning out efficient engines which were being used by new machines.

#### AVIATION RECORDS

During 1926 the French Government and the French aircraft industry made earnest efforts to secure for that country world's records, and M. Eynac, Under-Secretary of State for Aeronautics, announced a series of valuable prizes to encourage the design and manufacture of record-breaking aeroplanes. Possibly as a result of these prizes a number of interesting flights were made, by French fliers and new records made. On June 26th Captain Ludovic Arrachard, with his brother, Adjutant Arrachard, made a non-stop flight from Paris to Basra, Mesopotamia, a distance of 4305 kilometers (2675 miles) in 26½ hours,—using a Potez 28 biplane with a Renault 550 horse power engine, carrying with them 748 gallons of gasoline, or sufficient for a thirty-hour flight. This performance exceeded the record of Lieutenants Macready and Kelly of the U. S. Army who flew from New York to San Diego, Calif. 2650 miles in 27 hours.

This record, however, was supplanted on July 14–15, when Captain Girier and Lieutenant Dordilly flew 4715 kilometers (2930 miles) from Le Bourget Aërodrome at Paris to Omsk, Siberia in about 29 hours, using a Breguet 19 plane with a Hispano-Suiza 500 horse power engine. This record became the world record at the end of the year, having been accepted by the Fédération Aéronautique Internationale. On October 29 a still longer non-stop flight was made by Coate and Rignot, who flew from the Le Bourget Aërodrome to Djisk in Persia, a distance of 3415 miles in 32 hours. Their equipment consisted of a Breguet biplane equipped with a Hispano-Suiza 500 horse power engine and they flew via Strassburg, Vienna, Constantinople, Aleppo, and Basra. Captain Weiser and Lieutenant Challes of the French Army on Sept. 17, 1926 flew from Le Bourget to Bender Abas, 5174 kilometers (3750 miles), in 27 hours, or the same distance as between Brest and New York. These aviators employed a Breguet 19 A 2 plane with a Farman 500 c. v. engine.

The airplane record for altitude for a plane carrying no payload was broken on August 13, 1926, by M. Callizo, who, flying from the aërodrome at Buc, Versailles, France, in a Bleriot-Spad with a Lorraine 450 horse power engine, reached a height of 12,442 meters, or 40,820 feet, eclipsing his former record of 12,066 meters (39,586 feet), made on Oct. 10, 1924. The flight was made in the course of two hours and 25 minutes, and later in the year the record was accepted as official by the Fédération Aéronautique Internationale. On January 29 John A. Macready, U. S. Army Air Service, established an American air record of 35,900 feet, which, on March 13, he increased to 37,579 feet in an ascent over Dayton, Ohio, Macready in this flight encountered a temperature of 78 degrees below zero.

A record was made during the year for duration by an airplane with a payload of 2000 kilograms (4409.24 pounds) on July 24, 1926, when M. Robert Bajac flew 2 hours, 30 minutes,

37.2 seconds at Buc, Versailles. He used a Bleriot plane with four Renault engines of 230 horse power each. This record supplanted that of Bossoutrot, made on Nov. 12, 1925, of 2 hours, 19 minutes, 16¼ seconds. This record also was recognized by the F.A.I.

A speed record for seaplanes with a payload of 500 kilograms (1102.31 pounds) was made May 13, 1926, in France, by Lieutenant Demougeot in a Villiers seaplane with a Lorraine 450 h.p. engine. The new record was 203.275 kilometers (126.309 miles) per hour, supplanting the record of Lieutenant McDonald, U. S. Air Service, made at Hampton Roads, Jan. 23, 1926, of 179.497 kilometers (112.534 miles) per hour.

In a notable flight made Oct. 10, 1926, at Lac Majeur the Italian aviator Allesandro Passaleva, flying in the seaplane Savoia-Marchetti S-55. 2 "Asso," engined with two Isotta-Fraschini engines of 500 h.p. each, broke a number of records for seaplanes carrying a payload of 2000 Kg. (4409.24 lbs.) and flying in a closed circuit. The new record for duration was 5 hours 41 minutes 7 seconds; that for distance, 950 kilometers (590.3 miles); that for speed for 100 kilometers, 176.005 kilometers (109.361 miles) per hour; that for speed for 500 kilometers, 173.567 kilometers (107.849 miles) per hour. This flight also secured for Passaleva records for duration and distance for a seaplane with a payload of 1000 kilograms (2204.62 lbs.), and with a payload of 500 kilograms, the record for distance.

After Major de Bernardi had won the Schneider Cup at Norfolk, Va., on November 17, at Willoughby Spit, he flew with his Macchi-Fiat monoplane over a straightaway 3-kilometer course at an average speed for four laps of 258.873 miles per hour, making a new world's record for a seaplane, exceeding the 1925 record of Lieut. James H. Doolittle of the U. S. Air Service by more than 13 miles. This record for a seaplane compared favorably with the land-plane record of 278.48 miles per hour held by Adjutant Bonnet of France. Major de Bernardi's best speed was 272.132 miles per hour with the wind and his slowest 243.232 against the wind. He was timed by the same officials with the devices used in the Schneider Cup Race.

Another achievement of the year was a glider record made by the German pilot Kegel, who landed his glider 60 kilometers (37½ miles) from the starting point at the Rhône Meet on August 13th. This more than duplicated the previous record for distance made by Kegel at the Moscow Glider Meet earlier in the year.

#### AIR COMPETITIONS

THE NATIONAL AIR RACES. This important American competition opened on Saturday, September 4th, in connection with the Sesqui-Centennial Exposition at Philadelphia, taking place at the Model Farms Field, just southwest of the Exposition grounds. The rain somewhat marred the meeting and the Model Farms Field was in such poor condition that in some of the events, especially for the heavy bombing, transport and pursuit planes the Mustin Field in the nearby Navy Yard was used. The entries for the 19 race events of the week included 215 planes, and in addition there were numerous other contests, including many parachute jumps and displays by the Army and Navy aviators detailed

to the Exposition or sent specially to the meeting.

As in previous years, there was a long-distance event entitled the "On to the Sesqui Race," which attracted 22 entrants and was won by Fred. Day Hoyt of Eureka, Calif., who flew from that place, 2558 miles, in 31 hours, flying time. He was awarded the Sesqui-Centennial Trophy and first prize of \$1200. He flew in an OX-5 Travel Air plane and landed at the Model Farms Field on September 1st, at 6.02 A.M.

The first event of the regular programme was the elimination race for the Aero Club of Pennsylvania trophy, a free-for-all race for two or more passenger low-powered airplanes, over a course of 60 miles, five times around the triangular 12-mile course laid out for the distance races from the Model Farms Field pylon, across the Delaware River to Paulsboro, New Jersey, then to Woodbury, N. J. and back to the field. In this race, limited to civilians, the planes had an engine piston displacement not exceeding 510 cubic inches, and had to carry a total load of 340 pounds, including the pilot. It was won by Basil Rowe in a Thomas Morse S4E plane with an aeromarine T. B. engine, who made a speed of 109.59 miles per hour.

The Independence Hall trophy formed the second competition of the opening day and was a free-for-all civilian race for two, three, or four seater planes over a distance of 84 miles or seven laps of the 12-mile course, and attracted 9 contestants. The race was for planes with a total engine displacement of 800 cubic inches or less, carrying 340 pounds. First prize of \$1000 was won by C. S. Jones in a Curtiss Oriole plane with a Curtiss C-6 engine, it being the third consecutive year that this aviator had won this event.

On Labor Day, September 6th, a novelty relay race for the B. B. T. trophy was started for machines with a total engine displacement not to exceed 510 cubic inches, over a distance of 36 miles. Four teams of three planes each started, and the winners were C. S. Jones, A. H. Kreider, and Basil Rowe, the first and last flying in Thomas Morse planes and Kreider in a Waco 9, all with OX-5 engines. In this race, on the completion of the first lap the pilot landed, his passenger who jumped out of the plane and entered the second machine of the team, placing his colored pennant on it, and then flying the second lap entered the third machine.

The final event of Labor Day was a competition of National Guard pilots for the National Guard Trophy, all entrants flying in a Curtiss Jennies with a minimum wing area of 350 square feet and accompanied with a direct drive engine with a total cylinder displacement of not more than 720 cubic inches. The distance was 84 miles and 11 planes took part, five being from the Pennsylvania National Guard, five from the New York National Guard, and one from Maryland. The race was won by Carl W. Rach of the New York National Guard, with an average speed of 93.08 miles per hour, second and third places also going to entrants from New York State.

After an interval caused by rain and storm the National Air Races were resumed on September 8th, with the second heat of the elimination trial for the Aero Club of Pennsylvania trophy. In this competition the Pitcairn Rac-

ing Sesqui-Wing Arrow plane, fitted with OX-5 engine, was forced to land on the first lap, and Kreider in his Waco 9 was forced down by engine trouble on the second lap with severe damage to the plane but no injury to the aviator. The race was won by Fred. Hoyt in a Travel Air plane with OX-5 engine, at a speed of 96.554 miles per hour. In the Town and Country Club of Detroit trophy race James G. Ray, in his Sesqui-Wing Arrow plane won the competition with a mean speed of 136.3 miles per hour. In this race efficiency was figured in a separate competition which was won by the Wright-Bellanca machine with a W. B. 2 Whirlwind J 5 engine, which carried 1292 pounds at 121.358 miles per hour, gaining a total of 678.5 points. Another interesting contest was the Light Plane Competition, which was won by E. B. Heath in the Heath Tomboy plane with a Bristol Cherub engine. This machine made 91.291 miles per hour.

On September 9th, the final heat of the race for the Aero Club of Pennsylvania trophy took place, in which heat the winners of the two elimination races were eligible to compete. There were 12 entries, but two of the slower planes did not start and three dropped out on account of engine trouble, leaving seven planes to finish the race. The first prize of \$1000 was won by Robert Hewitt in the Waco 9 plane with OX-5 engine, who made a speed of 107.156 miles per hour, with a time of 46 minutes, 56 seconds, for the 84 miles.

The Liberty Engine Builders' Trophy Race for observation planes brought out a field of 11 service planes representing the United States Army and Navy. The Navy flew in a special DH plane (Packard 1A-1500) and a Vought UO-1 (Wright J-4), while the Army flew in the Douglas O-2 planes with Liberty engines or the Curtiss O-1 Falcon Observation planes with Curtiss D-12 engines. First place in this competition was won by Capt. Ira Baker, U. S. A., flying in a Curtiss O-1 plane with a Curtiss D-12 engine, which made a speed of 142.263 miles per hour. Second place was taken by Capt. Aubrey Hornaby in a similar machine, with a speed of 141.830 miles per hour, and third place went to the Special DH plane with the Packard engine, piloted by Lieut. G. T. Owens, U.S.N., who made 140.526 miles per hour.

On September 10th, the competition for the Liberty Bell trophy for large bombing planes was flown from Mustin Field in the adjoining Navy Yard, each plane being timed on a flying start as it passed the home pylon. In this race of over 120 miles, or 10 circuits of the 12-mile course, the machines had to show a speed greater than 85 miles per hour and have a wing area of not less than 600 square feet. The United States Army Air Corps entered six planes, three being the Douglas transports designated as C-1, with 400 horse power Liberty engines, and the other three Huff-Daland Pegasus light bombers designated LB-1, equipped with Packard 2A-1500 engines of 800 horse power, this last type of machine being one of the largest wing engine bombing planes in the world. The Douglas planes carried loads of 800 pounds, while the Huff-Daland machines carried 1250 pounds each. The first three places in this competition all went to Huff-Daland Pegasus planes, the first place being taken by Lieut. L. M. Wolfe, who made the course in 58 minutes,

11.91 seconds, or a speed of 123.714 miles per hour. The first of the Douglas planes to finish was that of Capt. F. I. Elgin, who took 62 minutes 42.73 seconds, or a speed of 114.810 miles per hour.

A close race was had for the Mitchell trophy, which was confined to machines of the first pursuit group, there being nine entries of similar planes, all being Curtiss P-1 Hawk Pursuit planes with Curtiss D-12 engines and Curtiss-Reed propellers. The course was 10 laps, or 120 miles, and first place was won by Lieut. L. G. Elliott, with a speed of 160.438 miles per hour. As indicating the excellent flying of all and the close condition of the contest, it was interesting to note that the last plane in had a speed of 157.070 miles per hour.

In the Detroit News Air Transport trophy the planes had to carry a minimum contest load of 1000 pounds in addition to the pilot and had to show a minimum useful cargo space of 40 cubic feet. There was a competition for speed and another for efficiency, and the distance was 120 miles, or 10 laps of the course. For efficiency not only speed and load were considered, but also the engine displacement, and by a formula, a figure of merit was found which determined the position of the contestants. Four planes were entered in this race, which was won by C. C. Champion, Jr., who flew the Wright-Bellanca WB-2 monoplane equipped with a Wright Whirlwind engine at a speed of 121.532 miles per hour. This plane also won in the efficiency competition, scoring 896 points.

For the Kansas City Rotary Club trophy, open to Army or Navy pilots and all pursuit type machines, over a distance of 120 miles, there were 12 entries, eight coming from the Air Corps, three from the Navy, and one from the Marine Corps. First place was taken for the Navy by Lieut. C. T. Cudahy, U.S.N., who flew in a Boeing Fighter FB-3 plane with a Packard 2A-1500 engine of 600 horse power, making a speed of 180.495 miles per hour, or 39 minutes, 53 seconds for the course. An interesting feature of this contest was the fact that two air-cooled engines, one a radial engine and the other an inverted Liberty engine, were employed. This contest attracted unusual attention, as it took the place of the Pulitzer Race, which was not held in 1926. On the concluding day of the show the novelty relay race for the Benjamin Franklin trophy was held and was won by a team consisting of Basil Rowe and C. S. Jones in Thomas Morse planes and A. H. Kreider in a Waco 9 plane.

In the Dayton Daily News Light Aéroplane Trophy Competition, involving a flight of 12 laps around a 5-mile course, first place was taken by E. B. Heath in the Heath Tomboy plane with a Bristol Cherub engine of 75 cubic inches. Heath's speed, which won him the trophy and \$750 cash, was 86.454 miles per hour. The same machines also took part in the race for the Scientific American Trophy, and in addition, C. D. Chamberlain flew the Bellanca plane with three-cylinder Lawrence engine. This trophy and \$750 were won by Kreider with a speed of 94.495 miles per hour, and second place and \$500 by Heath, with 91.217 miles per hour.

At this air meet 164 entries flew in races which covered in the aggregate about 1350 miles without a single serious accident, and the planes flown seemed in general to indicate an im-

provement over previous years, there being comparatively few War surplus planes flown. It was only in the National Guard Race that antiquated planes competed. All of the planes manufactured since 1920 flown by civilians and one modern plane of naval design had metal fuselages, while the Ford three-engine plane had metal wings. In the case of the Army bombers welded steel wing-beams were employed, but these were covered with fabric.

**SCHNEIDER CUP RACE.** The ninth international contest for the Jacques Schneider Cup for seaplanes, which was presented in 1913, when the first race was held, took place at Hampton Roads, Virginia, on November 13, after postponement for unfavorable weather, and was won by the Italian plane flown by Major Mario de Bernardi. The course was seven times around a 50 kilometer triangle, and the average speed of Major de Bernardi was 246.496 miles per hour, establishing a world's record and breaking the record made by Lieut. J. H. Doolittle, U.S.A., in 1925, who flying in a Curtiss R-3C-2 racer had made 232.573 miles per hour. In the 1926 race Major de Bernardi who flew in a Macchi Fiat plane with 800 h.p. engine, broke a number of seaplane speed records and covered the 350 kilometers (217.483 miles) in a total elapsed time of 52 minutes, 56.22 seconds. Major de Bernardi made a record of 248.189 miles per hour for 100 kilometers on the fifth and sixth laps, and on the third and fourth laps, flying at an average speed of 247.8115 miles per hour, and these two combined with the last two laps, made a world's record for 200 kilometers. Second place in the race was won by Lieut. Christian Frank Schilt, U.S.M.C., who flew in the R-3C-2, the winning Curtiss racer of 1925, with an average speed of 231.363 miles per hour or more than one mile per hour slower than the same plane made in 1925, though the 1926 course, on account of its sharp corners, was considered a slower course. The other competitors were: Lieut. Adrian O. Bacula, who flew in the Macchi-Fiat model plane Number 1 at an average speed of 218.006 miles per hour, with an elapsed time of 59 minutes, 51.30 seconds; Lieut. William G. Tomlinson, U.S.N., who flew in a standard service Curtiss Hawk seaplane, with an average speed of 136.953 miles per hour and a total time of 1 hour, 35 minutes, 16.72 seconds; Lieut. George T. Cudahy, U.S.N., who flew in the R-3C-4 Curtiss V-1550 racer, who was forced to retire from the race by the failure of his gasoline supply on the seventh lap; and Captain Ferrarin of the Italian team, who flew in a Macchi-Fiat machine and was forced out on the fourth lap due to failure of the lubrication system, but with his plane otherwise intact.

It was announced after the Schneider Cup competition that, instead of an annual race for seaplanes, this event would be held every two years and the next race would be in 1928 in Italy. The proposal for the change was made by the British Navy air authorities, as it was believed that the longer period would permit a wider development of seaplane racing craft, and the suggestion received the approval of the Fédération Aéronautique Internationale.

**COMMERCIAL AÉROPLANE RELIABILITY TOUR.** The second annual Commercial Aéroplane Reliability Tour for the Edsel B. Ford trophy and a cash prize of \$5000 started from Detroit

August 7, with 27 planes, and finished at the Ford Airport at Dearborn on August 21, the total distance traveled being scheduled at 2560 miles, over 14 cities, and involving stops at Kalamazoo, Chicago, Milwaukee, St. Paul, Des Moines, Lincoln, Wichita, Kansas City, Moline, Ill., Indianapolis, Cincinnati, Cleveland, and Fort Wayne. First place in this competition was won by Walter Beach in a four-seater Travel Air plane carrying 600 pounds contest load, and equipped with a Wright-Whirlwind engine, with a score of 4043.3 points and an average speed of 124.5 miles per hour, with a cash prize of \$5000, in addition to holding the Edsel B. Ford trophy for a year. Sixteen contestants finished and the trip was successful in all respects, the only serious mishap occurring to Major Schroeder's airplane, which was forced down when the right engine fell away from its supports due to the loosening of the metal propeller from the hub. Though it had no landing gear, the machine was brought to the ground without serious injury to either the pilot or the occupants. Six planes were forced to drop out of the tour, the majority of the causes being due to motor troubles, most of which occurred with war-time engines.

**LIGHT PLANE COMPETITION.** During the year in Europe considerable interest was manifested in light planes and an international competition was held at Orly, near Paris, France, from August 9 to 15. This competition was open to single and two-seater sport planes, and the elimination trials involved a speed and fuel consumption trial over a 50 kilometer circuit with a climb to 1000 meters; take-off and landing trials of minimum distance and a climb to 2000 meters; starting the engine three times within 15 minutes, one start being cold; and disassembling and assembling trials in which the machine, with the wings taken down, was pushed through a tunnel representing a small hangar and then set up again for flight. There was a race from Orly to Orleans and back, a distance of 192 kilometers, as the final test. Two-seater planes were allowed, in the 50 kilometer consumption trial, a fuel-consumption of 14 kilograms, as against 8 kilograms for single-seaters, and this contributed to the success of the winning plane, an Avia BH10 two-seater monoplane equipped with a 60 h.p. Walter air-cooled engine, which was piloted by Dr. Zdenko Lhota. This airplane attained a speed of 149.6 kilometers per hour, climbed to 2000 meters in 16 minutes, 15 seconds, landed in 120 meters, took off in 80 meters, was disassembled and assembled in 11 minutes, 34 seconds, and consumed 6.7 kilograms of fuel over the 50-kilometer circuit.

**BRITISH LIGHT PLANE COMPETITION.** A competition for light planes was held at Lympne, on the Southeast coast of England, September 10-17, with three additional races on September 18, and aroused great interest. For this competition 15 types of light planes were entered, six of which were of new design, not having appeared in the previous competition at Lympne, held in 1924. There were 16 actual entries, three of which did not actually arrive, so that 13 competed. At this meet interest centred in the efficiency competition for £5000 (\$25,000) in prizes offered by the *Daily Mail* (London), the first prize being £3000. This competition was based on the useful load carried by the planes per unit of fuel consumed during the period of

the contest and the rules permitted the entry of any airplane where the weight of the engine was not over 170 pounds. This weight included carburetor, induction system, ignition equipment, propeller hub and fittings, exhaust pipe and radiator pipes, and water, if any, though all the entries were fitted with air-cooled engines. The conditions further required machines to be two-seaters with dual control, an air-speed indicator being visible from each seat, and capable of accommodating a normal six-foot person. The useful load had to be a minimum of 340 pounds, including the weight of pilot and passenger, and additional useful load to the amount prescribed by the Air Worthiness Certificate was permitted to be carried anywhere in the machine. Certain repairs and replacements were allowed during the competition and entrants were permitted to replace a complete ignition system as necessary, though this point was extensively criticised during the tests. A series of elimination tests was the first feature of the programme, where the airplanes had to be folded up or dismantled completely and transported a distance of 25 yards, placed in a small shed, and then reerected for flight, not more than an hour and the services of two men being required.

In the competition proper a series of circuits were flown on successive days, averaging about 300 to 350 miles and totaling 1964 miles, various coast towns being visited in order to arouse as much interest as possible in these small planes. Nine planes participated, and of these five were retired, leaving four at the end. First prize, £3000, went to the Hawker Signet biplane with a Bristol Cherub 3 air-cooled engine, flown by Flight Lieut. P. W. S. Bulman, weighing 420 pounds empty, 900 pounds loaded, useful load 429 pounds, fuel used 388.83 pounds, over all average speed 64.98 miles per hour, total flying time 30 hours, 41 minutes, giving a total of merit of 2203.

#### NOTABLE FLIGHTS

**NOTABLE FLIGHTS.** The year 1926 was marked by a number of notable flights by aircraft under various conditions, which indicated that progress had been made in the power, and reliability of engines, and in the general design of airplanes and airships.

**SPAIN TO BRAZIL.** The first important flight of the year was made by Commander Raimond Franco, who, with four companions, left Palos, Spain, on January 22, in the airship *Ne Plus Ultra*, arriving at Las Palmas, Canary Islands, the same day. Thence they flew to Porto Praya, in the Cape Verde Islands, a distance of 1056 miles, on January 26, and on January 30, took off for the longest and most difficult of their flights, to the Island of Fernando do Noronha, off the Brazilian coast, a distance of 1432 miles. This was the eighth air crossing of the Atlantic and was accompanied by complete success, although the rear propeller was damaged in riding out the heavy seas at Noronha. The next stage was to Pernambuco, where a new propeller was fitted, and from there the route led down the coast to Rio de Janeiro, reached on February 4th, a distance of 1264 miles. The fliers also flew to Montevideo and made a short flight to Buenos Aires. The plane used was one of the Dornier Wal type, and, with the exception of the damaged propeller, made its flight in accordance with the original plans.

**NEW YORK TO BUENOS AIRES FLIGHT.** One of the long-distance flights of the year was that of Bernard Duggan, who left New York on May 24, for Buenos Aires, flying in a Savoia flying boat. Duggan left New York on May 24 and made his way south, waiting for good weather and taking the journey in stages. He was held up at Maraca Island, off the coast of Brazil, for a number of days in June but took off on July 3, and reached Para, Brazil, in two jumps on July 5. The flight was continued to Buenos Aires, which was reached on August 13.

**DETROIT ARCTIC EXPEDITION.** The first notable trip to the north was that of the Detroit Arctic Expedition, under the leadership of Captain George Wilkins, with Lieut. Carl B. Eielson as chief pilot and Maj. Thomas G. Lamphier, formerly of the First Pursuit Corps, Army Air Service. This expedition made its base at Fairbanks, Alaska, and there erected two planes, a Fokker single-engine monoplane and a Fokker three-engine plane of the same type used by Commander Byrd. (See below.) Both planes met with accidents on preliminary tests but soon were put in first-class flying condition. Provisions and supplies were transported from Fairbanks to Point Barrow, selected as the advance base. On March 31, Captain Wilkins and Lieutenant Eielson left Fairbanks in the single-engine plane *Alaskan* for Point Barrow, carrying 3000 pounds of supplies. At the latter point they set out again in a northerly direction without landing and returned to Fairbanks on April 7, having penetrated further north than had been explored before from this particular region. In the course of this flight Captain Wilkins flew 140 miles to the north from Point Barrow and did considerable exploring over an area which hitherto had not been known. On April 10, Wilkins and Eielson made a second flight from Fairbanks, carrying a load, in addition to the crew, of 4100 pounds. These explorations indicated the suitability of airplanes for polar exploration, as was borne out later in the year, when Commander Byrd made his record flight to the Pole.

**THE NORGE POLAR FLIGHT.** The first time that the North Pole had been crossed by aircraft and the first long flight across the Arctic started on May 11, when the Italian airship *Norge*, carrying the Amundsen-Ellsworth expedition, left King's Bay, Spitzbergen, at 8.55 A.M. and crossed the North Pole at 2.30 P.M. on May 12. This trip was of interest in view of the fact that the *Norge* left Rome, Italy, and sailed to Pulham, England, a distance of 1200 miles, and thence proceeded to Oslo (Christiania), 750 miles, to Leningrad, 720 miles, to Vadsoe, 300 miles, and finally to Spitzbergen, its point of departure, 650 miles further. The trip from King's Bay to the Pole was made without difficulty at an approximate speed of 60 miles per hour and at an altitude of between 1000 and 2000 feet. The *Norge* was in radio communication with civilization until shortly after 2 P.M., Greenwich time, on May 12, from which time she was out of communication until late on May 15, when it was announced that she had landed at Teller, Alaska, about 75 miles northwest of Nome. The flight proceeded successfully at normal average speed as far as Point Barrow, but between here and Teller high winds and heavy fog were encountered and large

pieces of ice thrown off by the propellers pierced the fabric hull of the airship, requiring immediate repairs. In the latter part of the flight off Cape Prince of Wales, Alaska, bearings were lost completely until land was sighted, and with a wind increasing in strength, it was decided not to attempt to reach Nome, as planned, but to make a landing at Teller. This was successfully done at 3.30 A.M. on May 14, after a flight of 2700 miles from Spitzbergen. The airship was deflated and packed for transportation back to Rome. The log of the *Norge* revealed the fact that the distance of 2000 miles from Spitzbergen to Point Barrow was accomplished in 46 hours, including  $2\frac{1}{2}$  hours spent in cruising around the North Pole, or a rate of 46 miles per hour. From Point Barrow to Teller, however, a distance of 700 miles, 25 hours were required, or a rate of 28 miles per hour. The actual distance from Spitzbergen to Teller, as reckoned by the pilot, was 3291 miles, as compared with a straight-line distance of 2700 miles.

The *Norge* was a semi-rigid airship, 325 feet in length, with a cruising radius of 3600 miles. She carried 30 tanks for fuel, each containing 67 gallons, or a total of 2000 gallons weighing 13,000 pounds. Extra fuel was carried in tins. This fuel capacity enabled the airship to travel over 3000 miles at a speed of 50 miles per hour, or a flight duration of 65 hours. The envelope of the airship consisted of strong three-ply rubberized fabric, the keel was of steel tubing, the front part of which carried a shield-shaped structure to resist aerodynamic pressure on the envelope. At the rear of the keel there was carried a system of rings which supported the elevators and rudders so that their functioning was independent of the tail plane and rudder. There were three engine nacelles, two on the side and one at the stern in the centre, suspended from the keel by steel cables, each having room for one engineer who was protected from the wind. The *Norge* was built by Col. Umberto Nobile, who was the first pilot. See POLAR EXPLORATION.

**AIRPLANE FLIGHT TO THE NORTH POLE.** One of the notable events in aeronautics of the year 1926 was the flight of Lieutenant-Commander Richard E. Byrd, U.S.N., and Pilot Floyd Bennett to the North Pole and back from King's Bay, Spitzbergen, which took place on May 9. The plane selected for this expedition was a Fokker airplane equipped with three Wright-Whirlwind engines. While the flight was made in good weather, nevertheless due consideration had to be taken of the climatic conditions and the ability of the plane to rise from soft snow with a total weight of 10,000 pounds and on skis. The expedition left New York on Apr. 6, 1926 on the S. S. *Chantier*, carrying with it both the Fokker plane and a Curtiss Oriole. The heavy Fokker plane was duly removed from the hold of the steamer and taken ashore on a raft, where it was assembled and moved up a hill, so that, with a runway of 1000 feet in length through the snow, a good take-off would be possible. After an unsuccessful attempt leading to a reduction of weight at 12.30 A.M., Greenwich time, May 9, a second start was made with a perfect take-off and the machine was headed due north towards the Pole. The plane, as fitted for this flight, carried, in addition to the navigation equipment, gasoline and oil, a short-wave radio with hand dynamo in case of



a forced descent, a hand-made sled for man-hauling supplies over the snow, two and a half months' carefully selected food, a rubber boat for getting across leads in the ice, extra fur clothes and shoes, fire-arms and ammunition, a gasoline stove, a light waterproof tent, hunting knives, ice knives and axes, a complete medical kit with surgical instruments, and smoke bombs for signals. Leaving King's Bay, Cape Mitre, 20 miles distant, was passed, and then Amsterdam Island, Haakon Peninsula with its peak 2000 feet in height, and Danes' Island, where Andrée, in 1896, had taken his departure to cross the Pole in a balloon, never to be heard from again. Leaving behind Nome Land, the actual ice-cap was reached with perfect weather and, flying at a height of about 2000 feet, the flight was maintained at a temperature of approximately 20 degrees below freezing, Fahrenheit, the journey being made over almost solid ice without sighting land. The three engines were consuming about thirty gallons of gasoline per hour, or about two gallons more than had been anticipated, but they were making a speed of 90 miles per hour and later in the flight the gasoline consumption dropped to the normal. An oil leak in the right engine reduced the speed at a distance of about one hour from the Pole, and it was necessary to cut out one motor and operate with the remainder. This brought the speed down to 60 miles per hour and the Pole was reached at 9.04 A.M., Greenwich time. After flying around the region of the Pole for a few minutes, it was found that the leaking engine was functioning, the leak being due not to the engine, but to the spare oil tank which had been fitted into the plane. The return course was set direct for Grey Hook, Spitzbergen, a few miles east of Amsterdam Island, and with a following wind the plane proceeded in its southerly direction. At 2.30 P.M., Greenwich time, land was sighted ahead, showing how accurate had been the navigation, and King's Bay was reached about half-past three, after a flight of fifteen hours, during which the engines ran without a hitch and the plane functioned in a most satisfactory manner.

SIR ALAN COBHAM'S FLIGHTS. In 1925 the British aviator Alan J. Cobham had flown from London to Rangoon and back, taking as a passenger Air Vice-Marshal Sir Sefton Brancker, the Director of Aviation in the British Air Ministry. On November 16 of 1925, in the same machine, a DH50J airplane equipped with a Siddeley Jaguar Radial air-cooled engine, Cobham left London bound for Cape Town, with the object of determining the feasibility of the operation of an air service to that point by the Imperial Airways, Limited. He was accompanied by a companion, a mechanic, and a moving picture operator, and the flight was of interest in view of wide changes of climate which were encountered. Leaving London, as stated, on November 16, and making various stops, he flew to Athens, a distance of 716.65 miles, where there was a delay of 16 days caused by repairing damaged pistons in the engine. At Cairo, reached on December 7, there was a delay of nine days while arrangements were made for fuel supplies, and at Khartum, reached on December 22, there was a further delay of six days. From this point progress was made by convenient stages until February 15, when Cape Town was reached, a distance of 8020 miles. The return journey was made somewhat more quickly, Cape Town being

left on February 26 and London reached on March 18. The flying time for the homeward trip was 80 hours, and the total outward and return journey was 16,130 miles.

On October 1 Cobham reached London after a flight from Melbourne, Australia, in which a total distance of approximately 26,000 miles was accomplished. He left the Midway at Rochester, England, on June 30 crossing the continent to the Mediterranean and continuing across the deserts of Arabia, losing in the Irak Delta his mechanic A. B. Elliott, who was shot from the ground by an Arab. Taking in his place Sergeant Ward of the R.A.F. he continued the flight to Australia, flying through India during the heavy monsoons, and, after unfavorable weather, reached Rangoon. On August 15 he arrived in Melbourne, and on August 29 left on his return trip intending to make a rapid dash, but his progress was interfered with by severe monsoon storms in the vicinity of Burma. As stated, he reached London in the afternoon of October 1 and was enthusiastically received, being knighted by the King. It was interesting to note that the identical airplane had been used on each of his three great flights and probably had as high a total mileage as any machine ever flown in such service. It had passed through various extremes of weather, and afforded proof of the durability of a modern airplane of high-grade construction.

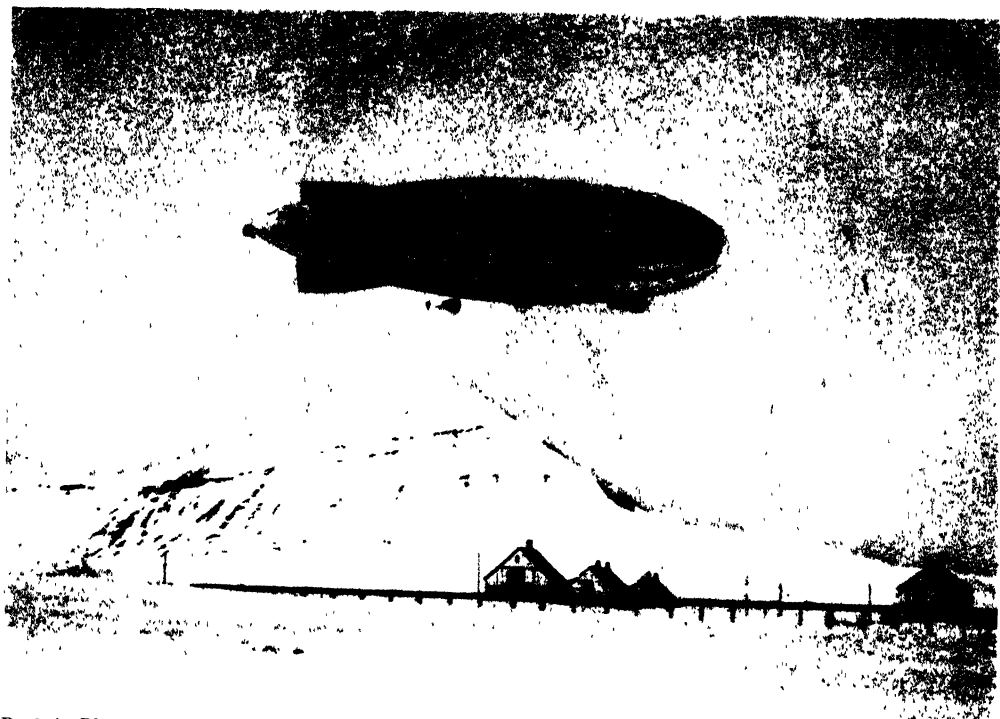
In November Sir Alan Cobham came to America on a lecture tour and was enthusiastically received, being tendered many honors by flying and other organizations. It was estimated that he had to his credit a total distance of approximately 500,000 miles in his extended air journeys.

PAN-AMERICAN FLIGHT. During the autumn the U. S. Army Air Corps planned a flight around South America, to be undertaken by a squadron of Army planes. This expedition, postponed a day on account of bad weather, started from New York at 10.35 A.M., December 21, under the command of Major Herbert A. Dargue, Air Corps, U.S.A. The squadron consisted of five Loening amphibian planes, the flag plane being the *New York* and the others the *San Antonio*, the *San Francisco*, the *Detroit*, and the *St. Louis*. At 5.30 P.M., December 22, the planes landed at Huasteca Field, across the river from Tampico, Mexico, and at 8.30 P.M., on the following day the *San Francisco* arrived at Vera Cruz, being the only one of the planes leaving Tampico to reach that city. The *St. Louis* was forced to land owing to a damaged engine and the other planes waited until repairs could be made, the officers of the expedition, in the meantime, going by rail to the capital and, on December 27, presenting the good wishes of President Coolidge to President Calles of Mexico. The flight was resumed later. In the meantime, the various engine troubles having been overcome, the planes proceeded from Vera Cruz on December 31, at 10.15 A.M., landing at Minatitlan, near Puerto Mexico, and proceeding from there to Salina Cruz, which they reached at 12.48 P.M., crossing the isthmus at Tehuantepec.

#### AIR MAIL

UNITED STATES AIR MAIL. The year 1926 was important in the development of the United States Air Mail, not only on account of the





*P. & A. Photos*

### THE DIRIGIBLE "NORGE"

LEAVING KING'S BAY ON ITS FLIGHT ACROSS THE POLE



*Hebert Photos, Inc.*

### AVIATORS OF THE NORTH POLE AIRPLANE EXPEDITION

LEFT TO RIGHT: LIEUTENANT GEORGE O. NOVILE, U.S.N.R., FLIGHT ENGINEER (DID NOT PARTICIPATE IN THE POLAR FLIGHT); LIEUTENANT-COMMANDER RICHARD E. BYRD, U.S.N., COMMANDER OF THE EXPEDITION; AND FLOYD BENNETT, PILOT



establishment of the through continental air mail between New York and San Francisco with over-night flying between New York and Chicago, but on account of the inauguration of contract mail service with the actual establishment of a number of air mail routes on this basis, with contracts awarded or bids called for on others. The airway between New York and Salt Lake City, 2045 miles, had been lighted, so that it was possible to dispatch mail by plane from the New York terminus at 11 A.M., and have it arrive at San Francisco, 2669 miles, at 4.30 P.M., the following day, and to have mail leaving the San Francisco terminus at 8.45 A.M. arrive in New York at 6 P.M. the following day. The lighted airway was established from Rock Springs to Salt Lake City, a distance of 159 miles, and this permitted belated planes to continue at night instead of being held until daylight to renew flight at Rock Springs or Salt Lake City. The plan of the Post Office Department provided for lighting the entire route between New York and San Francisco, so that letters sent after the close of the business day, instead of in the morning, would be received at their destination on the Atlantic or Pacific Coast with the loss of but one business day. Mail leaving New York, for example, on Saturday night, would be delivered in San Francisco in the first delivery on Monday morning.

Since July 1, 1924, the transcontinental mail planes carried mail at airplane postage rates of ten cents an ounce for the New York to Chicago route and eight cents an ounce for each of the three zones, New York-Chicago, Chicago-Cheyenne, Cheyenne-San Francisco, of the continental route. Late in the year it was announced that there would be a flat air mail postage rate of 10 cents per half ounce, irrespective of distance, effective early in the following year.

At the date of the Postmaster General's Annual Report, the air mail had 83 planes, 64 of which were equipped for night flying, most of them being DeHaviland type with Liberty motors, which were built by air mail employees at Maywood, Ill. The building of planes by the Department at Maywood was discontinued and Douglas planes and spare parts were being purchased from the manufacturers. During the fiscal year ending June 30, nine contract air mail routes were placed in operation, as follows:

Chicago, Ill., via Peoria and Springfield, Ill., to St. Louis, Mo., and return.

Chicago, Ill., via Moline, Ill., St. Joseph and Kansas City, Mo., Wichita, Kans., Oklahoma City, and Fort Worth, Tex., to Dallas, Tex., and return.

Salt Lake City, Utah, via Las Vegas, Nev., to Los Angeles, Calif., and return.

Elko, Nev., via Boise, Idaho, to Pasco, Wash., and return.

Detroit, Mich., to Cleveland, Ohio, and return.

Detroit, Mich., to Chicago, Ill., and return.

Chicago, Ill., via Milwaukee and La Crosse, Wis., and St. Paul, Minn., to Minneapolis, Minn., and return.

Jacksonville, Fla., via Tampa and Fort Meyers, Fla., to Miami, Fla., and return.

Cheyenne, Wyo., via Denver and Colorado Springs, Colo., to Pueblo, Colo., and return.

In addition, contracts were awarded for transportation of mail by aircraft between Boston and New York, via Hartford; Seattle, Wash., and Los Angeles, Cal., via Portland and Medford, Ore., Sacramento and San Francisco, Fresno and Baker's Field, Cal.; Cleveland, Ohio, and Pittsburgh, Pa.; and Atlanta, Ga., and Jacksonville, Fla.

During the fiscal year ended June 30, 1926, the Post Office Department operated planes on Government lines, flying a total mileage of 2,256,137, on a schedule calling for 2,411,059 miles of mail trips, or a percentage of performance of 94. Planes flying at night carried mail on Government operated lines amounting to 945,654 miles. After Feb. 15, 1926, various contract routes were brought into service, which added a mileage, between that time and July 1, of 378,478 miles. During the fiscal year the Government-operated routes carried 353,641 pounds of air mail, of which 107,047 pounds were handled by the over-night service inaugurated in 1925 between New York and Chicago. In the previous fiscal year, which did not include the over-night service, the total amount of mail carried by airplane was 232,513 pounds. The excess postage received for air mail transportation during the fiscal year 1926 was \$861,865.05, or an increase of \$259,237.51 over the preceding year. Of the 1926 receipts, \$160,881.04 was received on the New York-Chicago over-night route.

The Post Office Department reported that after the end of the fiscal year, June 30, the receipts in the transcontinental route increased, amounting in July to \$73,137.45, or an increase of \$12,703.80. In August they were \$8,275.66, an increase of \$18,459.69. In September receipts were \$82,769.59, or a gain of \$22,776.87 over the corresponding month of 1925, while in October receipts were \$90,906.10, or \$30,642.82 greater than in October of 1925.

As the year progressed the air mail service more than fulfilled expectations and in their transcontinental flights the mail aviators broke many commercial records. This was in addition to improving the general standard of service. According to a bulletin of the U. S. Post Office Department, Pilot Jack Milatz on December 16 flew from Chicago to Cleveland, 327 miles, in 1 hour and 59 minutes, or at the rate of 164.8 miles an hour. The best previous time was 2 hours and 2 minutes. Pilot Harry Chandler flew from Cleveland to New York, 299 miles, in 2 hours and 21 minutes, or at the rate of 169.7 miles an hour. The best previous time was 2 hours and 30 minutes. The flying time on this same date from Chicago to New York was 4 hours and 20 minutes, or at the rate of 167.3 miles an hour. The best previous time for this trip was 4 hours and 35 minutes.

The comparative speed records made during the month of December, 1926 and December, 1925, between different air mail stations are given in the following summary issued by the Post Office Department. It shows clearly the improvement during the year.

New York to Cleveland, 1926, 2 hours and 21 minutes; 1925, 2 hours and 52 minutes.

Cleveland to Chicago, 1926, 1 hour and 59 minutes; 1925, 2 hours and 7 minutes.

Chicago to Omaha, 1926, 2 hours and 50 minutes; 1925, 3 hours and 4 minutes.

Omaha to Cheyenne, 1926, 8 hours and 20 minutes; 1925, 8 hours and 20 minutes.

Cheyenne to Salt Lake City, 1926, 2 hours and 40 minutes; 1925, 3 hours and 2 minutes.

Salt Lake City to Reno, Nev., 1926, 3 hours and 27 minutes; 1925, 3 hours and 47 minutes.

Reno to San Francisco, 1926, 1 hour and 36 minutes; 1925, 1 hour and 26 minutes.

The Postoffice Department had discarded the De Haviland type of air plane and at the end of the year was using in its service the Douglas plane.

**AIR COMMERCE ACT OF 1926.** On May 20, 1926, the President approved the Civil Aviation Bill, a general and elastic law which turned over to the Secretary of Commerce and an assistant secretary to be appointed the administration of civil aviation in the United States. This law asserted the right of the Federal government to regulate interstate air commerce and provided for the furthering of air navigation facilities and for the establishment of regulations governing air traffic. It provided for the registration of airplanes and made necessary Federal certificates of air worthiness and pilots' licenses for planes used in a business way and flying from one State to another. It did not regulate flying within one State or flying between States by planes which were not used for business, and for these craft the registration or the obtaining of licenses was made optional. The Government was also authorized to provide aids to navigation in the way of landing fields and airways, and the status of foreign aircraft was defined. As Assistant Secretary of Commerce in Charge of the Bureau of Aviation, W. P. MacCracken, Jr., was appointed.

Late in the year the Department of Commerce issued the final draft of the regulations governing commercial aviation, to become effective on midnight Dec. 31, 1926. The regulations were promulgated after several tentative drafts had been made and studied by those interested. They provided for the registration of all planes used in "Air Commerce" after they had obtained air worthiness certificates, and for the licensing of pilots of registered aircraft. Air traffic rules, signals, and inspections were prescribed, and also penalties for their violation. The rules were quite minute and carefully prepared and will repay study.

Another important feature of the Government's interest in Aeronautics in 1926 was the adoption of the five year programme for the Army and Navy and providing that the Air Corps and the Bureau of Aeronautics should be linked more definitely with the older branches of the two services. The War and Navy departments both were provided with assistant secretaries for Aviation and to these positions F. Trubee Davison and Edward P. Warner were appointed respectively. See **MILITARY PROGRESS**; **NAVAL PROGRESS**.

**MANUFACTURE OF AIRCRAFT.** During the year the U. S. Department of Commerce announced that, according to data collected at the biennial census of manufactures, 1925, the establishments engaged primarily in the manufacture of aircraft built 621 airplanes and 78 seaplanes and flying boats, as against 505 airplanes and 82 seaplanes and flying boats built in 1923, the last preceding census year. The total value of the work done in 1925 by the establishments classified in the aircraft industry was, \$12,277,000. This amount includes \$3,429,000 representing the value of parts and \$882,000 representing the value of miscellaneous products. The total shows a decrease of 5.2 per cent as compared with \$12,945,000 for 1923. Of the 39 establishments reporting for 1925, 14 are located in New York, 5 in Ohio, 3 in California, 2 each in Illinois, Kansas, Michigan, New Jersey, and Pennsylvania, and the remainder in 7 other States.

**COMMERCIAL AVIATION IN EUROPE.** At a conference held at Paris on May 7 between France and Germany, European commercial aviation

was materially advanced through an agreement permitting of reciprocal relations in aviation between the two countries. Reciprocity in the matter of flying over the two territories and liberty of crossing frontiers figured in this agreement, which permitted the opening of air lines between French and German cities and the flight over the respective countries in through flights. This agreement did not in any way supersede the Treaty of Versailles, as the French insisted that the number of military pilots should be kept very low. The coming into effect of the agreement was marked on May 26 by the inauguration of a tri-weekly service between France and Germany, when two French commercial planes left Paris for Berlin and a German commercial plane arrived at Paris from Berlin carrying German air agents who were to be stationed at Le Bourget, the French air port.

During 1926 the following air lines were operating from the Paris air port at Le Bourget: Paris-London, Paris-Brussels-Amsterdam, Paris-Rotterdam-Amsterdam, Paris-Berlin. At Amsterdam connections were made with Hamburg-Copenhagen-Malmö, Hamburg-Berlin, Cologne-Berlin. At Cologne connections were made with Hamburg-Copenhagen, Paris-Strasbourg-Zurich-Innsbruck - Prague - Warsaw - Vienna - Budapest - Belgrade-Constantinople-Angora.

**GERMAN AVIATION.** The progress of commercial aviation in Germany was indicated by the fact that in 1925 fifty-six regular air lines were operating, serving an area of 23,000 kilometers and touching at 61 cities, as compared with twelve lines at the end of 1924, which were operating over an area of 7146 kilometers, touching at 26 towns. In 1924 there were available 24,613 seats for passengers, of which number 13,422 were occupied. In 1925 a total of 107,544 seats were available, of which 55,185 were occupied. In 1925 1,016,600 kilograms of postal letters and packages, freight, and baggage were transported, as compared with 202,806 kilograms in 1924. The total distance flown in 1925 was 7,534,756 kilometers, as compared with somewhat in excess of 2,000,000 kilometers in the previous year.

**AUSTRIAN COMMERCIAL AVIATION.** In 1926 it was reported that aerial traffic in Vienna had shown a decided increase over the preceding year. The number of arrivals and departures from the aerodrome Aspern (Vienna) since 1922, is shown by the following figures:

	Passengers
1922 .....	644
1923 .....	2,548
1924 .....	4,184
1925 .....	6,190
1926 estimated over .....	10,000

To Oct. 20, 1926 no serious airplane accidents had occurred on Austrian territory during 1926 and only two persons were slightly injured during a forced landing. Freight traffic by air in 1926 had advanced substantially, as had also the number of ordinary letters and shipments of gold sent by that method. Up to the end of the year mail had been carried by the ordinary passenger planes. But in 1927 it was planned to introduce the use of special freight planes on some lines.

**ITALIAN COMMERCIAL AVIATION.** In Italy the first commercial air line went into operation on April 1, 1926, when the Società Italiana Servizi Aëria (I.S.A.) established service between Trieste

and Turin making stops at Venice and Pavia, with flights on alternate days. On June 1 daily flights were instituted and the number of planes operated increased from four to eight. The company received a subsidy from the government, both in the form of mileage and for the transportation of mail, and was exempted from various taxes and duties. A second company, the Società Anonima de Navigazione Aëria of Genoa, was formed for the operation of a commercial line between Rome, Genoa, and Barcelona, this company also being subsidized by the government.

**GUGGENHEIM FUND FOR AÉRONAUTICS.** On January 17, Daniel Guggenheim, who in 1925 had given \$500,000 to New York University to establish a School of Aëronautics, announced that he had set aside \$500,000 for a fund to foster the science of aircraft and that he had provided additional sums up to a further \$2,000,000. The fund was organized under a Board of Trustees of ten members and headquarters were opened in New York City. At the first meeting of the Board the following officers were elected: President, Harry F. Guggenheim; and vice-president and treasurer, Rear Admiral H. I. Cone, who was to devote his entire time to the new organization. The field of activity of the fund was divided into four main branches, namely education, scientific research, commercial development, and educational information. The fund proceeded to function immediately, and in the early autumn granted to Leland Stanford University at Palo Alto a sum amounting to the income on \$300,000 for the financing of experiments and study in aviation and aëronautics, providing for the establishment and development of the Daniel Guggenheim Experimental Laboratory of Aëro-Dynamics and Aëronautical Engineering, which would extend the work previously carried on in the aëro-dynamics laboratory of the University. This gift would also provide for the establishment of a full course in aëro-dynamics and aëronautical engineering which would be a division of the School of Engineering on the same basis as the other courses. The Guggenheim Fund also awarded to the California Institute of Technology at Pasadena, \$200,000 for the immediate erection of a permanent fund to be devoted to the study of aëronautics, and grants totaling about \$100,000, to be made over a period of ten years. Here would be given a group of practical courses conducted by the Institute's experimental staff, in coöperation with the engineering staff of the Douglas Aëronautical Company.

Late in the year the Guggenheim Fund announced the appropriation of \$78,000 for the completion of the Aëronautical Laboratory and the establishment of the Daniel Guggenheim Professorship of Applied Aëronautics at the University of Michigan, Ann Arbor, Mich. Of this amount, \$28,000 was to be used to complete the laboratory apparatus and to construct new testing and research instruments, while the remainder was to be paid in installments of \$10,000 a year over a period of five years, for the establishment of the professorship. These gifts would enable the University to complete the work done in its wind tunnel and to install additional equipment.

**AÉROPLANE. See AÉRONAUTICS.**

**AFGHANISTAN**, af-gān'-i-stān'. An independent kingdom of Asia between the parallels 29° and 38° 20' north latitude and 61° and 72°

east longitude with a narrow strip extending to 75° east. The estimates of the area vary from 245,000 to 270,000 square miles. The population according to the latest estimate is about 12,000,000 although some authorities place it at about half that number. Capital, Kabul, with a population of about 100,000. Other important towns are Kandahar, Herat, and Mazar-i-Sharif. The Afghan is the dominant race, and the chief tribes are the Durrani and the Ghilzai, numbering about 2,200,000. The prevailing languages are Persian and Pushtoo, and the dominant religion is Islam.

According to the United States Bureau of Foreign and Domestic Commerce, little is known of the commercial life of Afghanistan. The news which filters across its borders from time to time is not only scarce but often unreliable. Even the transfrontier trade of the country is difficult to ascertain owing to the method of its conduct. Each year, however, Afghanistan is becoming more known among nations, and a gradual awakening appears to be manifest throughout the country. The Amir, in 1926, Amanullah Khan, who ascended the throne in 1919, seemed to be more progressive than his predecessor, and it was probable that under his guidance the nation would break away from its traditional seclusion and would establish more definite connections with the outside world.

Its soil and climate are well adapted to the growing of grain and fruits, and large areas are suitable for the flocks of sheep and goats belonging to its nomads. It is popularly supposed that the country is rich in minerals, including copper, lead, iron, and coal. There are no manufactures and no railroads, although the Khyber Railway from the Indian end of the pass by that name enters the Amir's territory. Motor trucks and camel caravans, chiefly the latter, move the transfrontier trade of the country. For several years the Afghan government, through a representative attached to the government of India, with headquarters at Delhi, superintended the placing of orders for material needed from the outside world. Of late a more conservative practice has prevailed and Afghanistan now buys largely through Kabul, but still strongly favors the Indian middleman, doubtless because of confidence in Indian business procedure and also because of unfamiliarity with modern business practices.

Since 1922 the government of Afghanistan has been a constitutional monarchy with legislative and state assemblies, and a cabinet which is presided over by the Amir himself.

**HISTORY.** Towards the close of the year the press reported that the dispute between Afghanistan and Soviet Russia with regard to the possession of an island in the Oxus River above Balkh had not been satisfactorily settled. The island in dispute was formed during the early part of 1926 by the tides in the river. Afghanistan immediately took possession of it but was driven off by Soviet forces. However, pending settlement, the Afghans were allowed to regain possession of the island.

**AFRICA.** The various divisions of Africa in this volume are discussed under their own heads. See articles on the respective countries and territories, including **ABYSSINIA**; **KENYA**; **EGYPT**; **MOROCCO**; **TUNIS**; **SOUTH AFRICA**, **UNION OF**, etc. See also the articles **ANTHROPOLOGY**; **ARCHAEOLOGY**; and **EXPLORATION**.

engaged in farming. Small classes were organized by the county agricultural organizer and were conducted by him or some member of his staff.

In April, 1926, young farmers' clubs were organized in 20 counties and dealt with a variety of subjects. In East Sussex County a *Boys' and Girls' Poultry Club Journal* was published. In July, 1926, there was an international dairy cow judging contest between calf clubs of England and America. In Staffordshire teachers for classes in home economics were provided.

CANADA. In the several provinces extension work was continued by public agents and through short courses at colleges and boys' and girls' clubs. In British Columbia much attention was given to pig, calf and poultry clubs. These were conducted under the supervision of the livestock and poultry branches of the provincial department of agriculture with the assistance of district agriculturists and supervisors of elementary agricultural education. In Saskatchewan special attention was given to pig clubs supervised by the university extension department, with the aid of the agricultural societies. An inter-club competition was held at the university and the winning team was given a trip to the "Toronto Royal," as the guests of the Canadian National Railways.

For adults the better bull campaign was successfully continued under direction of the livestock branch of the provincial department of agriculture. Purebred bulls and hogs carried on extension trains were sold to farmers and their scrub bulls were accepted in part payment. The agricultural societies were provided with two lecturers in the winter and there were also some special lectures and demonstrations on the bacon hog industry. Radio lectures by members of the agricultural college faculty were broadcast. In Alberta the women's home bureau service of the department of agriculture furnished short courses in home economics at the request of women's institutes, girls' clubs and other organizations. The millinery courses were especially popular.

In New Brunswick a short course for leaders in women's institutes work was given at the agricultural school at Fredericton during February. The branch institutes paid the expenses of representatives attending this course but others were also admitted. Instruction was given in home economics, dairying, bee-keeping and poultry.

UNION OF SOUTH AFRICA. Control of the schools of agriculture was transferred to a division of education and extension in the Department of Agriculture in November, 1925. Eight extension officers and one senior officer were at work during the year and a special organizing officer was added to the field staff. There were also four home-economics officers. Extension tours, farmers' weeks, demonstration trains and fairs were special features of the work. A women's section of the Transvaal Union was formed, with membership in existing farm associations or in independent associations.

INDIA. The agricultural departments of the various provinces continued to employ extension workers in coöperation with agricultural associations, coöperative societies and other agencies.

FRANCE. The extension organization under the Ministry of Agriculture included inspectors-general in the eight agricultural regions, di-

rectors of agricultural services in the several departments (counties), and professors of agriculture or special subjects. Work in agriculture and home economics for women and girls was continued. Agricultural associations also carried on much extension work.

BELGIUM. The Ministry of Agriculture continued to carry on extension work through numerous specialists in agriculture, veterinary medicine, forestry and farm housekeeping.

DENMARK. Extension work continued to be carried on by the Department of Agriculture, the Royal Agricultural Society, and about 120 local farm organizations.

THE NETHERLANDS. The Department of Agriculture carried on extension work through Inspectors of Agriculture. Advisers in agriculture and horticulture were located in the 11 provinces, together with specialists in dairying, animal husbandry, poultry and bee-keeping.

SWEDEN. Extension work was carried on by the 26 county agricultural societies, subsidized by the general government. In 1924 these societies had 663 sections and a total membership of 102,847. The extension forces of the societies numbered 232 advisers and experts. In addition, there were specialists employed by Government. The young farmers' league, which in a general way corresponds with the boys' and girls' club organizations in the United States, began in 1918 and had 232 groups with 10,300 members in 1925. About 200 competitive projects were conducted that year, including growing of root crops, kitchen gardens, plowing, millinery, domestic arts, etc., in which 2120 members took part.

SWITZERLAND. The Swiss Peasants' Union conducted extension work through traveling lecturers who also gave oral and written information on agricultural subjects.

GERMANY. Before the war the provinces of Prussia conducted many itinerant schools of rural housekeeping with courses of from 8 to 12 weeks but in recent years the expense of such schools has greatly reduced their number. Some objection to them also arose because in many cases they did not give the women instruction in agricultural subjects. The Chamber of Agriculture of Wiesbaden therefore decided in 1920 to give up such schools and substitute for them "parallel classes" for girls in the winter agricultural schools, which had been exclusively for young men.

Similar schools were held in the provinces of Brandenburg, the Rhine province, Saxony and Silesia. The classes proved so successful that in 1924 the Minister of Agriculture publicly commended them. The State subsidy was withdrawn from the itinerant schools and given to the parallel classes. However, the itinerant schools have many friends because they reach relatively large numbers of girls, who can live at home while attending them.

In Silesia courses of 14 days or more in mending linen and clothing were given under the auspices of the Federation of Farm Housewives' Societies. Fees of students met the expenses. The sessions lasted four hours in the morning or afternoon and each class was limited to 15 persons. In Hesse a farm housewives' society organized a two weeks' course in home economics and agriculture to train young women for leadership in their villages. So many girls applied for this course that it was necessary to get contribu-

tions from the government and other sources. In Bavaria among the courses held by the agricultural bureaus instituted by the government to act as advisory bodies for the farmers, those in farm mechanics were especially popular. They covered a week in the latter part of May. Each class was limited to 15 or 20 persons.

ITALY. The courses in agriculture for young peasants from 13 to 17 years old, provided for in the decree of April 3, 1924, were in operation in all the 120 provinces in 1926. The motion picture films of the National Cinematographical Institute were widely used and covered a considerable number of subjects. The prevalence of the eight-hour work day in Italy created new problems connected with the use of spare time. The Confederation of Fascists Corporations promulgated a scheme to meet the needs of old and young workers, including farm laborers. By a decree of May 1, 1925, the National Institute of Workers' Spare Time Employment was created, and put under the general control of the Ministry of National Economy. It received a subsidy from the Government and contributions from public administrative bodies, corporations and individuals. It encourages popular instruction, including agriculture and home economics, fixed and traveling libraries, motion pictures, radio broadcasting, excursions, exhibits, and many kinds of out-door and in-door social gatherings and recreations.

MEXICO. Extension work under the Bureau of Indigenous Culture of the Department of Education was carried on for several years in the remote and isolated regions among the Indian people. A special force of extension workers, known as "missionaries" get into close touch with the people and hold classes for adults and children. Elementary instruction in the fundamentals is given as well as in agriculture, home economics and modern social customs. Classes are first held outdoors in some clearing or in a hut. Then the people are encouraged to build "a people's house." In 1925 there were 400 such community centres in Mexico. After the "missionaries" have done the pioneer work extension specialists follow them to teach soil improvement, better designs for pottery and serapes, improved weaves of cloths and blankets, etc. In 1925, 120 missionaries and 600 specialists were employed. Consult *Report of the Director of the Extension Service, 1926*, by C. W. Warburton (U. S. Department of Agriculture).

**AGRICULTURAL LEGISLATION.** Aside from the annual act making appropriations for the support of the Federal Department of Agriculture, which is discussed elsewhere (See *AGRICULTURE, U. S. Department of*), the most important legislation to be completed during the year was an act signed July 2, 1926, establishing within the Department of Agriculture a division of coöperative marketing. This division was empowered to obtain and disseminate information regarding the organization, progress, and business methods of coöperative associations in the United States and foreign countries, including studies of the economic, legal, financial, social, and other phases of coöperation. It may also, upon request, make surveys and analyses of the business practices of representative coöperative associations, and may confer and advise with groups of producers desirous of forming a coöperative association. It is authorized further to "acquire from all available sources information

concerning crop prospects, supply, demand, current receipts, exports, imports, and prices of the agricultural products handled or marketed by coöperative associations, and to employ qualified commodity marketing specialists to summarize and analyze this information and disseminate the same among coöperative associations and others," and, in short, "to promote the knowledge of coöperative principles and practices and to coöperate, in promoting such knowledge, with educational and marketing agencies, coöperative associations, and others."

Another section of the act provides that "persons engaged, as original producers of agricultural products, such as farmers, planters, ranchmen, dairymen, nut or fruit growers, acting together in associations, corporate or otherwise, in collectively processing, preparing for market, handling, and marketing in interstate and/or foreign commerce such products of persons so engaged, may acquire, exchange, interpret, and disseminate past, present, and prospective crop, market, statistical, economic, and other similar information by direct exchange between such persons, and/or such associations or federations thereof, and/or by and through a common agent created or selected by them." This clause is, of course, general legislation and was evidently incorporated to relieve associations of this type from liability of possible prosecution for alleged conspiracy in restraint of trade.

Fully two score of other measures designed to afford relief to agriculture along economic lines were introduced during 1926, and a number of these were earnestly considered, but upon adjournment of the first session on July 3 the wide differences in opinion which had developed had precluded additional legislation. In the House favorable reports were authorized by the Committee on Agriculture on three measures dealing with the problem of the agricultural surplus, the so-called McNary-Haugen, Curtis-Aswell, and Fess-Tincher bills, but of these the first named was rejected by a vote of 212 to 167 on May 21, and efforts to substitute others proved unsuccessful. In the Senate a modified form of the McNary-Haugen bill was attached by the Committee on Agriculture and Forestry to the coöperative marketing bill, but it was eliminated during the consideration of that measure, by a vote of 45 to 39 and all attempts to incorporate other plans likewise failed.

Upon the convening of Congress in December for its second session, the agricultural situation was discussed sympathetically and in some detail by the President in his annual message. As regards the vexed question of the surplus, he made no specific recommendations but pointed out that "the problem urgently demands a solution. Discussions both in and out of Congress during the past few years have given us a better understanding of the subject, and it is my hope that out of the various proposals made the basis will be found for a sound and effective solution upon which agreement can be reached. In my opinion coöperative marketing associations will be important aids to the ultimate solution of the problem. It may well be, however, that additional measures will be needed to supplement their efforts. I believe all will agree that such measures should not conflict with the best interests of the coöperatives, but rather assist and strengthen them. In working out this problem to any sound conclusion it is necessary to avoid

putting the Government into the business of production or marketing or attempting to enact legislation for the purpose of price fixing. The farmer does not favor any attempted remedies that partake of these elements. He has a sincere and candid desire for assistance. If matched by an equally sincere and candid consideration of the different remedies proposed, a sound measure of relief ought to result. It is unfortunate that no general agreement has been reached by the various agricultural interests upon any of the proposed remedies. Out of the discussion of various proposals which can be had before the Committees of Agriculture some measure ought to be perfected which would be generally satisfactory."

In the short interval before the Christmas recess of Congress on December 22, no action was taken other than the introduction of many additional bills in both houses. One of these, sponsored by Senator McNary and Representative Haugen, was a more or less radical modification of the earlier McNary-Haugen bills, aiming to stabilize farm prices through a control of the surplus but omitting all reference to price levels and price standards. Under its provisions a separate "stabilization fund" is provided for each of the five commodities, cotton, wheat, corn, rice, and hogs. These stabilization funds would be obtained by levies on the "marketed units" of each commodity and would be employed in "removing or withholding or disposing" of the surplus by coöperatives or, if there are no co-operatives available, by individuals engaged in processing such commodities. No public funds would be used directly in effecting such control, but loans to be repaid with interest would be made from a revolving fund of \$250,000,000 to the several commodity stabilization funds in anticipation of the collection of the equalization fees imposed upon each marketed unit. Vigorous attempts to secure the passage of a measure along these lines early in 1927 were anticipated through the aid of a combination of the agricultural representatives of the West and South, but in view of expected continued opposition from industrial centres its passage within the eight weeks remaining before the expiration of the Congress seemed somewhat uncertain. However, it was confidently expected that President Coolidge would veto such a measure, if it was passed by Congress.

Despite the appointment early in 1926 of a Joint Committee on Muscle Shoals and its report on April 26, 1926, the question of the possible utilization of this equipment for the manufacture of fertilizers from atmospheric nitrogen was still undecided. Provision was made, however, for a five-year investigation by the Secretary of the Interior and the Secretary of Commerce of the potash deposits of the United States.

Legislation authorizing the formulation of a leasing system on the unappropriated public domain for grazing purposes and the adoption of a uniform grazing policy was still being sought. Various proposals looking toward the modification of the laws governing the collection by various agencies of the Federal Government of crop statistics, especially as to cotton, were being made. There were also pending the usual number of minor matters, but little progress was evident toward their enactment.

Only a few State legislatures were in session in 1926, and but little legislation was enacted.

The seed inspection laws of Louisiana, Rhode Island, and Virginia were amended, as were also the apiary inspection law of New Jersey, the feeding stuffs law of Ohio, the fertilizer law of Virginia, and the milk inspection law of Rhode Island. Kentucky passed a new law for nursery stock inspection, South Carolina required the licensing of nonresident nurserymen, and New Jersey safeguarded purchasers of nursery stock guaranteed to be true to name by requiring dealers to file duplicate contracts with the State secretary of agriculture.

A fruit and vegetable inspection and grading law was enacted in Louisiana. Massachusetts revised its apple-grading law to secure uniformity with the other New England States, and Michigan established standards for apples and grapes.

Drastic quarantine regulations against the European corn borer were authorized in Michigan, while New Jersey strengthened its law against contagious abortion of cattle and Rhode Island and Ohio their bovine tuberculosis laws. Louisiana regulated more stringently the slaughtering of cattle.

Ohio amended its laws for the regulation of co-operative marketing associations, and Louisiana its law for the licensing of commission dealers.

**AGRICULTURE.** The outstanding feature of the year 1926 in the United States was the immense cotton crop and the attendant slump in prices which resulted in a severe setback to southern farmers. It interrupted the moderate improvement in the agricultural situation which had been in progress since the depression period of 1920-21. The early estimate during the summer of something over 15,000,000 bales was increased in December to upwards of 18,600,000 bales. This was much the largest crop ever harvested in the United States. A record acreage was planted, and although the spring and early summer were cool, after the first of August the crop was favored by warm weather and a continuation of favorable weather conditions into the late fall, which extended the time of picking. Production was 16,103,679 bales in 1925, and 13,627,936 in 1924. There was a carry-over into the season of 1926 of 5,000,000 bales, which went to swell the large supply produced in that year.

To meet the situation the President appointed a Federal Commission consisting of the Director of the War Finance Corporation and the Secretaries of the Treasury, Agriculture, and Commerce, and the Government announced it would extend \$30,000,000 in credits to southern planters. The Commission made a survey to determine to what extent cotton countries of Europe could be induced to make long-time purchases, urged the domestic spinning industry to do the same, encouraged the movement of southern bankers to stand back of relief measures, and advised a restriction in acreage of the 1927 crop. Other agencies in the Southern States proposed to withhold from the market 4,000,000 bales for a period of 18 to 20 months and to secure a reduction in acreage of 25 per cent. Meetings were held throughout the South for this purpose, and many of the States entered into the proposed provisions.

Generally speaking the position of agriculture at the close of the year was better than it had been in any year since 1920. Livestock raisers, dairymen, and winter wheat growers earned good returns, and underlying conditions in the corn belt improved. Since 1920 every agricultural sec-



tion and every important branch of agriculture have made progress, although this has not been without reverses, and not all groups of producers have shared equally. For the crop year 1925-26, there was a decline in value of the leading farm crops of \$1,148,000,000 as compared with the preceding year, more than half of it due to the fall in cotton prices. The net return on the value of the capital invested in agriculture was calculated at about 4.5 per cent, compared with only .6 per cent in the crop year 1920-21. Over much of the country farmers were still struggling with a burden of debt and reduced buying power. The purchasing power of farm products in terms of nonagricultural commodities was about 85 per cent in the early fall, on the basis of the pre-war average, and declined somewhat later. Returns of the Department of Agriculture indicate that, with the allowance of a conservative interest on investment, the average farm family earned \$648 for labor and management, which is nearly 30 per cent below the earnings of 1919-20.

**DEMAND FOR RELIEF.** Dissatisfaction with the share agriculture was receiving in the general business prosperity continued with little abatement during the year. Various regional conferences of farmers and their organizations were held to consider the economic situation of farming and what was needed to remedy it. There was demand for legislation, which Congress had failed to provide although various measures were considered. There was much talk about the need for formulating a new agricultural policy, but no definite policy was agreed upon, and there was lack of uniformity as to the form of relief measures. Among changes suggested were a readjustment of the tariff schedule in order to extend more direct benefits to the farmers, better and more elastic credit facilities, a moderate revision of the immigration laws, reduction of local and State taxes, more economic distribution of products, and some provision for stabilizing prices which the farmer may receive for his products. The provision of funds for taking care of surpluses, especially for marketing these abroad, was one of the means advocated for restoring prices to a parity with pre-war averages.

Heavy debts contracted in a period of high prices, together with comparatively low returns in recent years, had resulted in bankruptcies and had perpetuated the distress among farming people. It was pointed out that one cause of the difficulty was found in the system and practice of local banking in its relation to the inflation of land values and the piling up of farm debts before the close of 1920. The extent of bank loans on land in excess of its present value had thrown many country banks into bankruptcy and put upon others the dangers of mortgage foreclosure. To this was attributed, in part at least, the interest of bankers in some measure for farm relief which would raise farm values. The economic and political background of the movement was apparently very complex. While it was generally admitted that agriculture was not upon the proper basis and was entitled to the same opportunities as were extended to other industries, hope of solving the problem in the political arena was evidently somewhat on the wane.

On the other hand, the interdependence of the industries and agriculture had aroused the interest of a wider circle. Agriculture supplied raw materials for factories that gave employment to at least half of the laboring population, and it

was estimated that agriculture's purchases of manufactured goods amounted to \$6,000,000,000 a year, while its entire purchasing power, including transportation and other services, was fully \$10,000,000,000. Hence marketing systems that will enable farmers to realize more from their products without injury to others were seen as the practical means of relief.

**THE CROP YEAR.** Generally speaking, total crop production of the year was above average in quantity but below average in quality. Total production of all crops apparently was about 3 per cent larger than in 1925, and the per capita production in 1926 about 2.4 per cent above the per capita production for the previous five years. The composite quality of 15 important crops, exclusive of cotton, fruit, winter wheat, and sweet potatoes, was about 5 per cent below the last 10-year average. There was a good crop of wheat, and its value was about \$39,682,000 greater than 1925 although in parts of the spring wheat sections yields were reduced by drought, the spring crop being practically a failure in much of South Dakota and Central North Dakota. The total crop of all wheat was estimated at about 832,000,000 bushels, an increase of 156,000,000 over 1925, and also above the 5-year average. The corn crop of 2,645,031,000 bushels was about 6 per cent below the average and was reduced by relatively early frosts and by excessive rains in the North Central States. Corn prices were low enough to encourage feeders. The balance between corn production and hog production was improved and, although there was no undue surplus of corn as there was in 1925, there was sufficient to fatten an increased number of pigs.

The oat crop was slightly below the average but was produced on an increased acreage. The estimate was for 1,253,739,000 bushels. The barley crop of 191,182,000 bushels was slightly above the 5-year average, while that of rye was less than two-thirds of the average, owing largely to progressive reduction in acreage but partly also to subnormal yields. The hay crop was slightly above the relatively short crop of 1925 and considerably below the average. Potato acreage increased only moderately over the relatively small acreage of 1925, but the yield was slightly above the average, giving a total production of 357,800,000 bushels. Production of sweet potatoes was one-fourth greater than last year but still slightly below the average. The tobacco crop was an average one. Although the production of cigar type tobaccos was below the average, that of the cigarette types was larger but not above the trend of present consumption needs. There were large crops of fruit, that of apples being above the average in nearly all sections of the country and the total the largest in over a decade. See articles on the individual crops.

In spite of a common belief to the contrary, the U. S. Department of Agriculture reported that crop yields per acre had been rising steadily in the previous forty years. Since 1885 the average yield per acre of corn had increased 18 per cent; that of wheat 17 per cent; of oats 14 per cent; and of potatoes 39 per cent. In the same period the combined acreage of these four crops had increased about 52 per cent and the total quantity produced had increased 72 per cent. Most of these increases in acre yields had occurred in the older regions east.

of the Mississippi, which is contrary to the idea that the farm lands of the longer settled parts of the country have become worn out or less productive. A recent survey of the States of New York and New Jersey showed that they constitute a rich farming section with an annual income greater than that of Ohio, Indiana, Missouri, Wisconsin, Minnesota, Kansas, or Nebraska. Only one State east of the Mississippi, namely, Illinois, exceeds the combined farm income of these two States, and in the whole country only four outrank it. The income per farm is relatively high in this eastern area, and the percentage of farms operated by owners is larger than in any other section.

**DECREASE IN HARVESTED AREA.** In the five years ending with 1925 the total area of harvested crops in the United States had decreased 19,000,000 acres, equivalent to 5 per cent of the cultivated area, the land having reverted to pasture or woodland or been allowed to lie idle. This was the first Census period in the history of the country to report such a falling off in acreage. The decreases occurred principally in the eastern cotton belt, in the corn and winter wheat belt, the eastern and southern part of the corn belt, the hay and dairy region from Lake Michigan to the Hudson Valley, and in Eastern Washington and California. It was attributed to the agricultural depression of the five year period. This reduction in cropped land occurred despite an increase in population of nearly 8 per cent.

Likewise a continued decrease in farm population was reported by the Department of Agriculture in 1925, amounting to 479,000 persons, including men, women, and children living on farms. There was a gross movement away from the farms of about 900,000 persons, but the large increase of births over deaths helped to offset the loss due to cityward movement. In 1924 the net movement from farms to towns and villages amounted to 679,000 persons.

**AGRICULTURAL SURPLUSES.** Much attention was attracted to the surplus problem and its relation to the farmers' present difficulties. The problem, however, of surpluses and shortages was not merely one growing out of readjustments following the war, but had been of periodic occurrence. When agriculture was a home industry, producing for home consumption, there was no problem of surpluses. But the question had grown up with the practice of production mainly for the market. Its seriousness was intensified by the fact that in the case of many agricultural products the supply was extremely inelastic and hence a change in supply results in a relatively greater change in wholesale price. Hence surpluses of various crops unquestionably exercise an influence on prices entirely disproportionate to their amount. This is seen whenever the production of a crop reaches proportions in excess of the country's demand and particularly at a given time, as when large proportions of the crop are being marketed. Contrary to popular view, the size of the surplus is not indicated by the amount offered for export, although foreign demand and export serve to reduce the effect of a surplus over local needs. Surpluses occur, however, in products which are not exported to any considerable extent, as in the case of corn, and a reasonable surplus or carry-over of nonperishables like cotton is a safeguard tending to equalize prices.

It is contended, therefore, that the farm problem is not merely a question of disposing of temporary oversupplies. The belief that it is has led to various proposals that the Government take over the surpluses, removing them from the local market and providing for their export or otherwise neutralizing their action on prices. But such proposals have not been held economically sound because they relieved producers from responsibility in controlling their production and would be likely to impose a very heavy financial burden on the general Government. Such governmental action would tend to interfere with the law of supply and demand which, in relation to production, is expressed in curtailment when production becomes unprofitable and resumption or increase when it again becomes profitable. Two suggested avenues of approach are through a better adjustment of production to market requirements—the difficulties of which are realized but not believed to be insurmountable—and through a better control of the movement of products into consumption channels. To accomplish more orderly marketing would require adequate marketing, storage, and credit facilities, and the organization of producers to act together in their marketing operations. Such an orderly flow of products to market, it is thought, can best be effected by farmer-controlled agencies, especially through centralized selling as a result of consolidation of existing coöperative associations along commodity lines. See also AGRICULTURAL LEGISLATION.

**AGRICULTURE ABROAD.** Agricultural production in Europe outside of Russia had practically recovered from the effects of the War. In some lines it had increased, while in others it remained somewhat less than formerly. In 1925 production of the principal food crops, wheat, rye, and potatoes, was greater than the pre-war average, 1909–13. In 1926 the wheat and rye crops were not so large, but the potato crop and such feed crops as barley, oats, and corn, were larger than the pre-war average. The area planted to the principal crops in all European countries exclusive of Russia remained about 5 per cent below the pre-war average.

Preliminary estimates of the world production of grain crops and potatoes, exclusive of Russia, indicated a reduction with the exception of wheat, which in the Northern Hemisphere was about equal to last year's crop. In early December the indications were that the world wheat crop would be increased over the previous year. The crops of Australia and Argentina were both larger. The total production in the Southern Hemisphere promised to be about 50,000,000 to 80,000,000 bushels greater than in 1925. The Canadian wheat crop was estimated at about the same as in 1925.

Owing to the increased cotton crop of the United States, the world's crop of that fibre was expected to be larger even than in 1925, which was a record crop. The world's consumption of cotton in that year was greater than in any previous year, but not equal to the production, thus leaving a large carry-over to 1926. The prospect was that consumption would not take care of the new crop so that stocks might be greater at the end of the year than at the beginning. The estimate of the world's sugar crop for 1926–27 by Willett and Gray was slightly less than production in the year 1925–26. The de-

PRODUCTION BY COUNTRIES IN 1925 AND 1926 OF WHEAT, RYE, OATS, BARLEY AND MAIZE IN BUSHELS

	Wheat		Rye		Oats		Barley		Maize	
	1926	1925	1926	1925	1926	1925	1926	1925	1926	1925
United States .....	832,305,000	676,429,000	40,024,000	46,456,000	1,253,739,000	1,487,550,000	191,182,000	216,554,000	2,645,031,000	2,916,961,000
Canada .....	405,814,000	411,375,700	12,018,000	13,688,500	381,573,600	543,470,500	103,086,000	112,663,300	6,744,000	10,564,300
Argentina .....	191,139,900	191,138,000	4,733,300	1,457,000	80,432,900	53,436,000	17,058,800	6,974,000	279,516,300	
Chile .....	27,469,200	24,866,000	54,200	38,000	5,185,200		5,294,000		1,763,200	4,598,000
Uruguay .....	10,023,800	9,909,000			2,439,800		107,300			
Austria .....	9,975,000	10,671,000	19,951,200	21,656,100	31,282,100	26,760,800	9,915,000	9,217,000	3,676,600	4,597,100
Hungary .....	69,199,800	71,674,300	80,015,300	32,524,900	23,930,500	25,531,700	22,655,000	25,430,900	78,826,100	87,970,800
Czecho-Slovakia .....	35,672,700	39,309,000	49,712,400	58,098,300	90,129,700	89,862,700	51,335,200	57,207,900	10,811,700	12,042,800
Belgium .....	12,227,700	14,477,100	19,634,500	21,704,800	55,736,500	42,501,600	3,823,500	4,164,900		
Bulgaria .....	41,064,100	49,642,700	8,007,600	8,889,100	7,413,000	10,267,800	11,969,500	14,652,200	29,018,500	28,158,200
Denmark .....		9,747,600		13,745,700		65,837,300		36,575,500		
Estonia .....	844,300		4,444,200	7,187,200		8,722,800		5,289,300		
Finland .....	701,800	927,200	10,511,400	13,863,500	34,144,000	40,410,500	6,292,500	6,467,100		
France .....	248,602,800	330,338,200	33,310,000	43,662,600	397,895,000	327,647,500	54,016,500	47,160,700	20,003,100	
Germany .....	112,191,700	118,212,300	295,097,900	317,423,600	452,605,100	384,742,800	120,353,800	119,377,100		7,893,400
Greece .....	11,159,400	11,172,800	1,254,300	959,100	5,940,100	5,687,600	8,540,300	9,514,600		109,978,800
Italy .....	221,009,700	240,843,700	6,495,800	6,704,500	40,674,600	47,475,000	11,023,300	12,860,600	118,105,500	
Latvia .....	1,888,400	2,165,000	6,119,100	12,404,600	18,565,100	20,933,700	8,207,400	8,168,700		
Lithuania .....	4,334,600	5,285,300	13,743,000	26,116,400	24,998,300	19,609,000	10,262,600	11,251,800		
Luxembourg .....	633,100	553,400	1,373,100	359,800	3,396,500	2,544,800	206,700	174,800		
Netherlands .....	4,813,300	5,742,600	11,058,600	16,231,200	25,897,300	20,314,100	3,325,400	3,555,500		3,467,500
Norway .....	596,500	490,300	666,800	613,700	13,604,100	12,048,100	5,245,600	5,179,700		11,727,400
Poland .....	50,238,800	57,915,000	206,078,300	257,412,500	237,371,500	228,146,400	73,750,800	77,038,700		163,739,400
Portugal .....	8,417,600	11,477,500	3,865,200	4,721,200	5,308,100	5,684,300	1,775,800	1,987,600	203,366,500	176,461,400
Roumania .....	110,881,900	104,740,100	11,242,900	7,997,600	79,850,400	50,986,000	77,390,800	46,818,300		28,209,900
U. S. S. R. (Europe & Asia) .....		577,071,900		767,593,700		647,205,500		239,628,000		
Spain .....	157,338,800	162,590,800	27,090,400	29,880,500	43,712,500	43,443,600	95,021,000	98,923,200		
Sweden .....	12,062,800	13,791,100	23,542,400	29,081,000	74,261,100	84,395,800	12,998,400	14,709,000	139,900	177,200
Switzerland .....	5,621,700	5,324,100	1,582,600	1,641,700	3,107,100	2,693,800	564,900	532,800		
United Kingdom .....		52,918,000			130,874,200			53,711,000		
Yugoslavia .....	77,981,200	78,616,000	8,269,100	7,863,900			18,470,500	18,145,000	149,232,800	
British India .....	324,949,300	330,997,300					123,386,700			
Japan .....	28,414,400	29,541,400			10,764,000	10,744,300	77,177,900	91,471,000		
Algeria .....	22,867,300	32,670,100		27,100	8,226,000	15,768,100	22,070,400	37,308,600		
Egypt .....	37,206,900	36,247,300					10,097,100	11,144,400		
Tunis .....	13,043,800	11,757,800					8,267,500	6,889,600		
Australia .....	150,000,000	113,443,300								
New Zealand .....		4,657,200				5,028,300		994,000		401,800
Union of South Africa .....		8,333,200								32,323,000

crease applied to both the cane and beet crops.

The table on page 25 gives the production in the principal countries of the world as far as available at the close of the year.

**GREAT BRITAIN.** Farming conditions in England showed little if any improvement, and especially no gain in confidence in the future of arable farming, for a further decline of 134,000 acres of cultivated land was recorded, as compared with 1925. The country had therefore nearly half a million acres less under cultivation than before the outbreak of the War, and two million acres less than in 1918. Wheat was the only cereal crop which showed any increase in acreage, while that of barley decreased and that of oats remained unchanged. The area under sugar beets more than doubled. This change from cultivation to laying down in pasturage was reflected in the increase in cattle, the number being the greatest ever recorded and representing an increase of nearly three-fourths of a million in the past five years.

British farming was definitely suffering from undercapitalization. Apparently there is a wide gap between the social valuation of land and its earnings or economic capacity. It was commonly reported that land was paying only 2 per cent on what it was supposed to be worth. Under the circumstances which have prevailed since the war, landlords have found it impossible to continue to maintain the credit requirements of agriculture. The condition has affected tenants so that the landlord, the tenant, and the laborer are all suffering from lack of capital, high taxes, and reduction of income.

**FRANCE.** In France there was a return during the year to the war-time measures of saving wheat. It was decreed that bread flour must contain 8 per cent of rye and, when that is not obtainable, rice, barley, or corn substitutes are required. The object was to try to steady the constantly mounting price of bread and to tide over the period until the 1926 harvest without having to import foreign wheat. Production, however, showed a decrease. An embargo was placed on the export of French wheat except a small amount for seed purposes. The small parcels into which land has been cut up in France is shown by a statement from official sources that nearly 4,000,000 of the 5,703,000 landowners in that country possess less than 25 acres each. Only about 30,000 have 250 acres.

**JAPAN.** By imperial decree the Japanese Government made effective the legislation pending since 1910 granting to foreigners the right to own land in Japan. Heretofore they had been able only to lease under certain restrictions.

**AGRICULTURAL EXPORTS AND IMPORTS.** The value of the exports from the United States of agricultural products, excluding forest products, was 17 per cent less in 1926 than in 1925 but remained larger than in any other year since 1920-21. In percentage of total exports there had been a steady decline. In 1901 agricultural exports constituted 65.2 per cent of the total exports. By 1913 the proportion had dropped to 43.6 per cent, but immediately following the War it rose to over 50 per cent. Following the War there was a downward trend, the proportion being 44.2 in 1925 and 40.6 in 1926, the lowest ever recorded except in the war years 1916-18. On the contrary, exports of industrial products have increased since the War. The latter amount to nearly 10 per cent of the manu-

facturing and mining output, compared with about 13 per cent of the production of farms. Cotton stands first in value among all agricultural exports. Imports of agricultural products, exclusive of forest products, amounted to \$1,918,000,000 during the year. Many of these competed directly with American-grown products; for example, sugar, \$232,000,000; wool and mohair, \$125,000,000; hides and skins, \$94,000,000; tobacco, \$60,000,000; dairy products, \$31,000,000; and flaxseed and flaxseed oil, \$40,000,000.

**FOOD AND POPULATION.** From time to time the relation of food production to increasing population was given attention by economists and publicists in long-range predictions, usually leading to the suggestion of ultimate food shortage as a limiting factor in the growth of population. Sir Daniel Hall presented such a discussion before the British Association, which, on account of his prominence, attracted quite wide attention.

It was estimated that under present conditions of farming about 2½ acres of cultivated land were employed for the maintenance of one unit of population, man, woman, or child. The area varies in different countries according to the quality of the land and the system or intensity of agriculture followed. It is as low as 1½ acres in Denmark with its intensive cultivation, and as high as 4 acres in Spain, with its great areas of poor pasturage. There is held to be a definite limit to the land suited to cultivation, which is being approached. On the basis of an increase of white population of the world amounting to 5,000,000 annually, Sir Daniel estimates that 12,000,000 acres of cultivated land per year will be needed to supply the food requirements of this increase if present conditions are maintained. He anticipates that the white races will insist on maintaining their rising standard of living, and since the possible expansion of farm area is restricted he considers that the needed increase in production is largely dependent on increasing the acre yield. This means higher costs, except as it can be accomplished by the application of science—improvements due to the plant breeder, more effective methods, more adequate use of machinery, the cheapening of fertilizers, etc. Greater intensification of production is held to be dependent largely on stimulation through rise in prices of agricultural products or securing a larger relative return to the farmers for their efforts.

On the other hand, those who have expressed greater confidence in the ability of agriculture to take care of increasing population pointed to the large opportunities still open for the expansion of farming, especially in undeveloped regions of Africa, Australia, the South American countries, and parts of the United States, the extent to which the area of such food crops as wheat and corn had been extended in the colder countries, and the possibility for increasing farming efficiency. It had recently been estimated by the Farmers' National Council that American agricultural and forest resources were sufficient to maintain a domestic population of 312,000,000, and, with intensive development, would maintain 519,000,000. The Secretary of Agriculture in his last annual report for 1926 called attention to the great variation in efficiency of production on different farms. Some dairy farms produced 100 pounds of milk with one dollar's worth of feed, while on other farms two dollars'

worth of feed was required. On some farms a bale of cotton was produced with 200 hours of labor, while on others where natural advantages are just as great 300 hours were required. Some hog raisers make 100 pounds of pork for every 250 pounds of grain fed to hogs, while other raisers require more than 500 pounds of grain for the same purpose. The American farmer on the average was feeding himself and ten other persons at the present time. This could be increased by greater efficiency of production, which is economically possible. The Secretary maintained that efficiency does not necessarily mean maximum production per acre nor production at the lowest cost per unit. The farmer is most efficient who uses the methods that will give him the greatest returns from his farm as a whole, which calls for attention not only to the cost of production but to the quality and volume of the things produced.

**COÖPERATION IN AGRICULTURE.** Much emphasis continued to be laid on coöperation as a means of improving the economic position of the farming people and advancing the interests of rural living. The number of farmers' coöperative associations has increased from less than 6000 in 1915 to approximately 12,500 in 1926. The membership of these coöperatives has more than trebled since 1915, having reached a total of approximately 2,000,000. During this same period the volume of business had grown from \$635,800,000 to an approximate total of \$2,400,000,000, a four-fold increase which represents one-fifth of the agricultural products of the country.

There is a close relationship between the intermediate credit banks and the coöperative movement. More than half the loans of these banks have been made to farmers' coöperative marketing associations, nearly \$125,000,000 having been so loaned last year, to finance production as well as marketing. The availability of this resource has had the tendency to make it easier for the coöperatives to get credit from commercial institutions, and on better terms. During the year, provision was made by Congress for the establishment of a Division of Coöperative Marketing in the Bureau of Agricultural Economics, to enable the Department of Agriculture to conduct research studies and furnish service which will aid in the development of the coöperative movement. See also **AGRICULTURAL LEGISLATION.**

The Secretary of Agriculture devoted a large amount of space in his report for this year to matters relating to coöperation, pointing out the causes of failure, the primary essentials of success, and the possibilities of large expansion. The coördination of local coöperative units was advocated, in order to provide a stronger central sales agency and to give more effective bargaining power. It was believed that there should be separate organizations for each leading commodity, rather than having wheat growers, cotton growers, fruit growers, and livestock raisers all in the same organization. The opportunity open to large-scale, efficiently managed coöperatives is three-fold: (1) standardizing grades and handling methods; (2) development of an effective merchandising programme; and (3) supplying the farmer with information regarding the market conditions sufficiently far in advance so that he may make adjustments in his production programme.

In Canada, likewise, coöperative organizations were making rapid growth and organizations of great magnitude, such as the wheat pools, were functioning successfully. The Canadian wheat pool, with its three units in the Provinces of Manitoba, Saskatchewan, and Alberta, established three years previously, was said to be the largest coöperative organization of its kind in the world, with a membership of over 125,000 farmers controlling about 14,000,000 of the 21,000,000 acres sown to wheat in the three provinces. The Canadian wheat pool handled the sale of the greater part of the wheat product of Canada. Most of it was sold by a central selling agency to importers and buyers in different countries, the agency having its own representatives in fifty-one ports of the world. Progress was also being made in the coöperative selling of livestock. The Saskatchewan livestock pool and hog pool have been united under one management, and it was expected the association would handle 1000 cars the coming year. See also the articles on the different crops, **HORTICULTURE, FORESTRY, LIVESTOCK, DAIRYING, FERTILIZERS, SOILS, ENTOMOLOGY, ECONOMIC, VETERINARY MEDICINE, FOOD AND NUTRITION, etc.**

**AGRICULTURE, UNITED STATES DEPARTMENT OF.** Dr. William Marion Jardine of Kansas, in 1926 continued to be Secretary of Agriculture, with Renick W. Dunlap as Assistant Secretary. Dr. Albert F. Woods, president of the University of Maryland and formerly Assistant Chief of the Bureau of Plant Industry, was appointed Director of Scientific Work. On June 30, 1926, the personnel of the Department was 20,742, of whom about 4700 were located in Washington.

The report of the Secretary for 1926 dealt largely with the economic conditions of agriculture in the United States, including the surplus problem, developments in coöperative marketing, farmers' taxes, and the relation of the tariff to agriculture.

**COÖPERATIVE MARKETING.** An act of July 2, 1926, created a division of coöperative marketing in the Bureau of Agricultural Economics. Its objectives are research designed to test existing business and marketing methods, education in the principles and practice of coöperation and the service of a fact-finding agency to the coöperatives. Studies were begun on the coöperative marketing of cotton, grain, livestock, fluid milk, fruits and vegetables. Coöperative associations reporting to the Department at the end of 1925 had about 2,000,000 active members in various organizations. Their annual business totaled about \$2,400,000,000.

**WEIGHING LIVE STOCK.** By an Act of May 6, 1926, the packers and stockyards act was amended to permit the Secretary to register as a market agency any authorized State department or agency for weighing livestock received at a stockyard. The Packers and Stockyards Administration dealt with 78 stockyards, about 5600 market agencies and dealers and 850 packers. Progress was made in the enforcement of the Grain Futures Act. The important exchanges created business-conduct committees with broad powers over the transactions in futures.

**PLANT QUARANTINE.** A decision of the Supreme Court of March 1, 1926, that, with the Federal plant quarantine act in force, State action is illegal, invalidated over 200 State quarantines. To remedy this an amendment to that act, ap-

proved April 13, 1926, authorized the Secretary of Agriculture to cooperate with any State, Territory or district in the enforcement of quarantines and authorized the State to exercise its police powers with respect to articles shipped in violation of a Federal plant quarantine.

**ROADS.** During the fiscal year ended June 30, 1926, 9,417 miles of road were completed under the Federal Road Act of November 9, 1921, making a total of 55,903. In addition, 10,962 miles were under construction. The total cost of the projects completed during the year was \$206,139,220, of which \$90,294,107 was paid by the Federal Government. The total Federal-aid funds apportioned to the States during 10 years were \$671,375,000. Ten years previously only 5 States had an improved road across the State, while in 1926 25 States had such a road. Within and adjacent to the national forests there were forest highways aggregating 13,459 miles, of which 10,954 miles were in 11 Western States. With Federal funds of the Bureau of Public Roads 622 miles of forest roads were completed during the fiscal year 1926, making the total 3045 miles.

**EXPENDITURES.** For the fiscal year 1926 the total expenditure for the regular work of the Department was \$44,576,388. Approximately \$10,300,000 was used for research; \$2,300,000 for extension work; \$9,300,000 for eradication or control of plant and animal diseases, insects and other pests; \$12,900,000 for service activities, and \$9,700,000 for regulatory work. Funds amounting to \$5,486,616 were received and deposited in the Treasury, of which \$4,641,415 was from business in the national forests. The other funds administered by the Department aggregated \$121,189,272, of which \$98,715,362 was for Federal-aided roads and forest roads and trails; \$2,400,000 for experiment stations under the Hatch, Adams and Purnell Acts; \$5,880,000 for extension work under the Smith-Lever Act, \$1,271,275 for local road and school purposes, and \$1,025,495 for forest purchase and conservation under the Weeks Act.

**APPROPRIATIONS.** The Appropriation Act of May 11, 1926, for the fiscal year ending June 30, 1927, carried \$127,924,573, of which \$80,000,000 was for roads. The amount available for the regular work of the Department was \$47,924,573. The net increase of \$2,200,000, included \$1,100,000 additional for payment of indemnities to farmers in connection with tuberculosis eradication work. To this must be added permanent appropriations, including \$4,580,000 for extension work under the Smith-Lever Act, \$3,000,000 for meat inspection, \$1,440,000 for experiment stations under the Purnell Act, and \$3,771,250 for various forestry purposes. The total available for the Department in 1927 was \$139,275,823.

**BUILDINGS.** Under the public buildings act of May 25, 1926, granting \$50,000,000 for buildings in the District of Columbia during the next five years, it was expected that over \$8,000,000 will be used for buildings for the Department of Agriculture.

**PUBLICATIONS.** For the fiscal year 1926 the Department issued 581 new publications, 231 numbers of six periodicals and 490 reprints, in total editions of 30,694,306 copies, of which 13,183,607 were Farmers' Bulletins. The *Year Book* for 1925 was the last of a series begun in 1921, and contained articles on the production, nutritive value, diseases and pests, and market-

ing of fruits and vegetables, history of the fruit and vegetable industry and its relation to other farm enterprises, and horticultural manufactures. An appendix of nearly 800 pages contained statistics of crops, live stock, forestry, imports and exports, farm property and income, cost of production, farm prices, farm population, etc.

**RADIO SERVICE.** To give agricultural information to the rural people who own nearly 1,000,000 radio sets a new section was established in the Office of Information, known as the radio service. Ninety broadcasting stations, representing all parts of the country, loaned their facilities to the Department for an average of half an hour daily. A United States Radio Farm School, with half a million enrollment, was conducted from 25 stations, on the basis of printed lessons distributed to the students. "Noonday flashes" were sent to farmers from 50 stations and a "Housekeepers' Chat" was broadcast to farm women from 40 counties.

The Departmental library contained about 200,000 books, pamphlets and bound periodicals, of which about 15,000 were added during 1926.

**AIRCRAFT CARRIER.** See **VESSELS, NAVAL; NAVAL PROGRESS.**

**AIRSHIP.** See **AERONAUTICS.**

**AITCHISON**, At-shi-son, JOHN YOUNG, American clergyman, died at Chicago, Ill., March 15. He was born at Cascade, Dubuque County, Ia., May 27, 1868, and after studying at Central College, Pella, Ia., and at Des Moines College, Iowa, graduating from the latter in 1893, he attended the Divinity School of the University of Chicago, 1893-96. He was ordained to the Baptist ministry in 1896, though he had previously served as pastor of the First Church, Wasco, Ill., 1894-95, and the First Church of Maywood, Ill., 1895-96. In 1896 he was called to the Garfield Park Church at Milwaukee, Wis., serving two years until he assumed the pastorate of the First Church at Shenandoah, Ia., where he served from 1898-1902. In the latter year he became pastor of the First Church at Galesburg, Ill., acting in that capacity until 1909, when he became secretary of the American Baptist Home Mission Society at Chicago. Three years later he was made joint district secretary of the American Baptist Home Mission Society and American Baptist Foreign Mission Society, Chicago, and in 1916 home secretary of the American Baptist Foreign Mission Society.

From Aug. 1, 1919, Dr. Aitchison served as director of the General Board of Promotion established by the Northern Baptist Convention held at Denver in the preceding May. This organization had as its objective the raising of \$100,000,000 to advance the work in the ensuing five years, known as the New World Movement. It was the greatest task ever undertaken by this denomination, but unfortunately it was put forward at a time unfavorable for securing large financial support. Nevertheless, Dr. Aitchison labored loyally and earnestly, and, at the end of the five year period, when the Board of Promotion was succeeded by the Board of Missionary Cooperation, he was unable to permit his name to be considered for the position of executive secretary of the new organization. In 1924, however, Dr. Aitchison was selected by the trustees of the University of Chicago, who were anxious to increase the capital resources of that institution, as assistant to the president, Dr. E. D.

Burton. His special duty in this position was to interest those able to use their wealth for the betterment of humanity through the various opportunities presented by the university. During the eighteen months of his work with the university the endowment fund was increased by nearly \$700,000. Dr. Aitchison was an able administrator, and was considered at the time of his death one of the great leaders in the American Baptist Denomination.

**AJAKITE.** See CHEMISTRY under *Mineralogical Chemistry*.

**AKELEY, CARL ETHAN.** American hunter, naturalist, and artist, died at Kabale, Uganda, Africa, November 17, while on a tour of East Africa to obtain specimens for the American Museum of Natural History. He was born in Orleans County, N. Y., May 19, 1864, and was educated at the State Normal School of Brockport, N. Y. In 1895 he became connected with the Field Museum of Chicago and was with that institution until 1909, when he joined the staff of the American Museum of Natural History of New York. In addition to his work as a naturalist he was an engineer and inventor serving as consulting engineer in the division of investigation, research and development of the Engineering Department of the United States Army. He was also a special assistant in the concrete department of the Emergency Fleet Corporation, and the cement gun which he invented became widely used. He also invented a motion picture camera which could be used extensively in field work.

Akeley was a man of versatile attainments and, in addition to being a naturalist and big game hunter, who had made four trips to Africa for study and collection of big game, he was a sculptor and taxidermist of high rank. These gifts were united in the preparation of various wild animals for display in the American Museum of Natural History, and coupled with it was the devising of lifelike surroundings for the specimens, so that preconceived methods of museum display were revolutionized, and the various groups were presented in their life-surroundings in a manner previously not deemed possible. He was a member of the National Sculpture Society, the Architectural League of New York, the National Institute of Social Sciences, the Franklin Institute, and many other societies as well as the Explorers, the Ends of the Earth, Adventurers, and other clubs. The work on which Akeley was engaged, namely the creation of an African Hall in the American Museum of Natural History, was provided for by George Eastman and Daniel E. Pomeroy. It was begun in 1914, and it was expected that the acquisition of material would require some 18 years, but the work was interrupted by the War. He wrote: *In Brightest Africa* (1923).

**ALABAMA.** POPULATION. According to the Fourteenth Census, the population of the State, on Jan. <sup>1</sup>, 1920, was 2,348,174. The estimated population on July 1, 1926, was 2,526,000. The capital is Montgomery.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	2,825,000	45,765,000	\$34,781,000
	1925	2,797,000	37,760,000	37,760,000
Cotton	1926	3,718,000	1,490,000 *	79,715,000
	1925	3,504,000	1,857,000 *	128,210,000

Crop	Year	Acreage	Prod. bu.	Value
Peanuts	1926	140,000	79,800,000 *	8,591,000
	1925	180,000	100,800,000 *	3,226,000
Sweet potatoes	1926	65,000	6,500,000	5,525,000
	1925	65,000	4,550,000	5,688,000
Hay	1926	603,000	572,000 *	10,224,000
	1925	578,000	389,000 *	7,738,000
Potatoes	1926	29,000	2,080,000	4,060,000
	1925	25,000	1,425,000	3,135,000
Oats	1926	138,000	3,086,000	2,064,000
	1925	131,000	2,227,000	1,737,000
Peaches	1926		1,159,000	1,275,000
	1925		1,312,000	2,099,000

\* bales, \* pounds, \* tons.

**MINERAL PRODUCTION.** Chief of the State's mineral products were coal and iron ore. Coal production in 1925 was 20,004,395 tons; in 1924, 19,130,184 tons. Coal mined in 1925 was valued at \$42,442,000; in 1924, at \$44,756,000. Of iron ore mined in the State the quantity was 6,891,081 long tons in 1925 and 6,557,596 long tons in 1924; the value, \$14,134,677 in 1925, and \$13,927,551 in 1924. Blast furnaces in the State produced in 1925, 2,910,370 long tons of pig iron; in 1924, 2,667,361 long tons. Its value in 1925 was \$57,777,275, and in 1924, \$55,791,228. Coke production for 1924, the latest year available, was 4,541,058 short tons; for 1923, 4,654,075 short tons. The product in 1924 was valued at \$17,404,066; that in 1923 at \$19,817,394. Other mineral products are cement (production in 1925, 6,258,000 barrels; in 1924, 5,552,550 barrels), graphite, sand, gravel and stone. The total value of mineral products in 1924 was \$77,315,758; in 1923, \$82,496,430, eliminating duplications.

**FINANCE.** As summarized by the United States Department of Commerce, the payments for maintenance and operation of the general departments of the State government for the fiscal year ending Sept. 30, 1925, totaled \$13,537,426, and were at the rate of \$5.50 per capita. The rate per capita was in 1924 \$5.71; in 1917, \$3.05. The 1925 total included \$3,983,047 in apportionments to minor civil divisions for education. Interest on debt amounted to \$1,110,935. Outlays for permanent improvements totaled \$11,427,578. Total payments for general department expenses, public service enterprises, interest and permanent improvements were \$26,086,439. On highways were spent \$9,135,019 for construction and \$596,341 for maintenance; in all, \$9,731,360.

Revenue receipts for 1925 totaled \$20,217,399. They were at the rate of \$8.21 per capita. Revenue receipts exceeded by \$5,558,538 the payments exclusive of those for permanent improvements, and were \$5,869,040 less than the payments including these. This excess of payments over revenue was met by the proceeds of debt obligations.

Property and special taxes formed 38.5 per cent of the total revenue for 1925, and were at the rate of \$3.16 per capita. The percentage was in 1924, 37.6, and in 1917, 55.3. The per capita taxation was in 1924, \$2.99, and in 1917, \$1.94. Earnings of general departments and compensation for services rendered by State officials supplied 20.4 per cent of the total revenue for 1925. Business and non-business licenses supplied 21.3 per cent.

The net indebtedness of the State on Sept. 30, 1925, was \$28,280,049, or \$11.49 per capita, as against \$8.27 per capita in 1924 and \$5.80 in



1917. The assessed valuation of property in 1925 was \$1,050,421,680. The State taxes levied amounted to \$6,827,741, or \$2.77 per capita.

**TRANSPORTATION.** The total mileage of railway line at the end of 1925 was 5,254.45. No new construction was reported in 1926.

**EDUCATION.** The State Department of Education and the Alabama Educational Association were active during the year presenting the educational needs of the State to the public. The main effort was to obtain material increase of appropriations from the Legislature at its 1927 session. The governor-elect was looked upon as definitely committed to greater school revenue. Preparations were made to seek the establishment of an equalization fund and of other improvements in the educational organization. The Educational Association completed a consecutive two-year campaign in favor of its objectives.

**CHARITIES AND CORRECTIONS.** The State Board of Administration, formerly the Board of Convict Supervisors, directs the hospitals, insane asylums and child welfare institutions of the State and supervises the employment of State prisoners under the convict leasing system. It issues a quadrennial report coinciding with quadrennial sessions of the State legislature.

**POLITICAL AND OTHER EVENTS.** At the November election Bibb Graves, the Democratic candidate, was elected Governor, to succeed Governor William W. Brandon. As United States Senator, Hugo L. Black, Democrat, was elected to the Seventieth Congress, as successor to Senator Oscar W. Underwood, who had announced in 1925 that he would not seek reelection. All ten members of the U. S. House of Representatives forming the State's delegation in the House of the 69th Congress were reelected, all being likewise Democrats. Other officers elected in 1926, to take office Jan. 17, 1927, were: Lieutenant-Governor, William C. Davis; Secretary of State, John Brandon; Treasurer, W. B. Allgood; Auditor, S. H. Blan; State Superintendent of Education, R. E. Tidwell; Attorney-General, Charlie C. McCall; Commissioner of Agriculture and Industries, S. M. Dunwoody.

A movement for the reform of the State's prison system was started during the year and led to drawing of bills to put an end to the practice of leasing convicts to work for private persons and companies. The body of a prisoner who had been hired out by the State as a worker and who had died at the Flat Top Mine Camp was examined by a coroner's jury in February and found to show evidence of beating. By the beginning of May the deaths of five convicts were under investigation. Two wardens at convict labor camps were indicted for murder of convicts. Bibb Graves, contestant for the governorship in the Democratic primary, ran on a platform calling for the end of the convict leasing system and for employing convicts instead on public road building. He won in the primary of August 10. Accordingly in December the Lieutenant-Governor elect, W. C. Davis, prepared bills to be submitted in the State legislature early in 1927. These provided for the termination of leasing, for the establishment of State owned material plants and for convict road work.

**OFFICERS.** Governor, William W. Brandon; Lieutenant-Governor, Charles S. McDowell; Secretary of State, Sidney H. Blan; Treasurer, George W. Ellis; Auditor, William B. Allgood;

State Superintendent of Education, John W. Abercrombie; Attorney-General, Harwell G. Davis; Commissioner of Agriculture and Industries, J. M. Moore.

**JUDICIARY.** Supreme Court: Chief Justice, John C. Anderson; Associate Justices, William H. Thomas, A. D. Sayre, Ormond Somerville, Lucien Gardner, B. M. Miller, and Virgil Boul-din.

**ALABAMA, UNIVERSITY OF.** A State institution for higher learning at University, Ala.; founded in 1831. For the fall term of 1926 there were 2280 students enrolled, as follows: arts and science, 1190; engineering, 270; law, 132; medicine, 100; graduate, 26; education, 61; commerce, 501. 1959 attended the summer session. The faculty numbered 100, three of whom were newly appointed. The productive funds of the university amounted to \$1,659,693.38, and the income for the year was \$591,207.31. The library contained 75,000 volumes, 20,000 of which were government documents. A new Chemistry Building was added during the year, at a cost of \$200,000. President, George H. Denny, Ph.D., LL.D.

**ALASKA.** The Territory in 1926 was gradually recovering from the depression following the World War. Industrial and economic conditions improved during the year, and it was evident that Alaska was in the way of self support. Territorial finances were in excellent condition, as well as the banking institutions,—with no deficits or liquidations. The balance of trade steadily favors the Territory, the increase for the year amounting to \$1,878,497,—from \$27,420,893 in 1925, to \$29,024,224 in 1926. While exports decreased to the value of \$1,920,000, there was an increase in fur shipments exceeding \$400,000. Seal, reindeer and fur-bearing animals are increasing in numbers. Most encouraging was the attention given to Alaskan matters by Congress. It enacted 14 public bills and 1 resolution, which corrected many of the legal disadvantages under which the Territory had suffered for more than fifty years. Alaska was also benefiting by the home-rule policy, under which it had a governor, who, through long residence in the Territory, was familiar with its resources and its needs for development.

**COMMERCE.** The total exports and imports rose during the year to \$92,844,000, an increase of \$1,878,000. The healthiness of the trade was shown by the balance of \$29,300,000 in favor of the Territory. Fish and copper constituted 78.8 per cent of the exports. The entry of vessels increased to 2948. The total of industrial investments is unknown, but must approximate 100 millions, as those of the fisheries amounted to 67 millions in 1925.

**RAILWAYS.** The only changes in transportation by rail pertain to the Federal road, the Alaska Railroad. The railway system was necessarily supplemented by river service on the Yukon, as the commercial fleets were discontinued when the railroad opened. The upper Yukon is obliged to depend on Canadian steamers, but the Alaska Railroad provides transportation for the Nome region by steamers from Nenana on the Tanana, to Holy Cross, on the lower Yukon, where connection is made with the launch service of the Northern Commercial Co., thence to St. Michael and Nome.

The maintenance and operation costs of the railroad had been economically reduced, but very



little had been done to complete the construction of the railway, for which \$11,000,000 was necessary. The local needs were met by two mixed trains each week. During the summer an additional train runs between Seward and Anchorage, with a weekly motor-train between Anchorage and Fairbanks. The branches have two trains a week throughout the year. Special trains for hunters and tourists are run whenever needed. Revenue from passengers increased to \$57,567, and the commercial tonnage rose to 65,036 tons. The total transportation and incidental revenues increased 23.2 per cent, to \$1,063,553. The entire rail expenses, including replacement, was \$1,981,833, a decrease of 14.3 per cent. River-boat expense was \$106,225. Total deficit, including charges to capital, was \$1,690,751, a decrease of 18.3 per cent. Mining and other industries were developing along the railway, which would lead to increased demands for transportation. Interruptions to traffic were few, and there were no casualties in train operations.

**ROADS AND TRAILS.** Beneficial as is the rail transportation, it is less important than are roads and trails, in the development of Alaskan resources. The funds for road purposes are Congressional appropriations, the Alaska Fund, National Park funds, forest funds and territorial appropriations. Apart from the forests, the work is generally under the Federal Road Commission. In 1926 the work was largely directed to the rehabilitation of roads and trails in remote regions, begun in 1920,—a system that extends to all inhabited localities. All classes of work covered 6496 miles, as follows: Wagon roads, 1234 miles; tramways, 9100 miles; sled roads, 949 miles; permanent trails, 3844 miles; flagged trails, 368 miles. The Richardson Highway was of great utility. Between Fairbanks and Circle, 100 miles are passable for wagons, and the whole road for double bob-sleds in winter. These roads since 1911 had reduced freighting costs over two million dollars.

**COMMERCIAL AVIATION.** Considering this method of transportation to be essential, the Legislature appropriated funds for the construction of 25 aviation fields, varying in size from 300 × 800 feet, to 600 × 1400 feet. Two companies were operating from Fairbanks as a centre.

**FISHERIES.** The fish industry has for years been the most important in the Territory,—investments, personnel and products. Its conservation, a problem of great Federal importance, has engaged the attention of Congress, of the Department of Commerce, as well as of the entire Pacific coast region. After the International Pacific Salmon Investigation Federation had coöperated in studying conditions, Congress by the Act of June 6, 1924, amended by the Act of June 18, 1926, authorized the Secretary of Commerce to issue regulations for conservation purposes, by limiting or prohibiting Alaskan fishing. In 1925 modified regulations were issued, closing areas where over-fishing had occurred; extending closed periods; and limiting fishing apparatus. As investigations dictated, amendments were made, the last to go into effect in 1927. The offshore fishery—halibut—was the subject of a treaty with Canada, under which winter fishing was prohibited.

The maximum product was in 1919, after which there was a sharp decline in the catch. In 1924 the value was \$40,289,273; in 1925, \$40,-

038,745, a decrease of \$250,528. The exact figures for 1926 are unavailable, but the value will exceed \$50,000,000. The investments increased from \$62,400,000 in 1924 to \$67,100,000 in 1925, and the personnel rose to 27,685, of whom 15,996 were whites and 4607 natives.

**SALMON.** The fishing of the salmon continues to be the leading industry of the Territory, as evidenced by investments, personnel and products. The active investments reached \$55,543,544 in 1925, an increase of 1.5 per cent over the previous year. The personnel numbered 27,685, of whom 58 per cent were whites and 17 per cent natives. In 1924 the output of canned salmon,—which constitutes more than 90 per cent—amounted to 5,294,915 cases, valued at \$33,007,000. There was a large decrease in the catch of 1925, when the 4,459,937 cases had a value of \$31,989,531. The output and value were: Coho, 161,010 cases, \$1,565,750; chum, 1,078,680, \$4,787,030; humpback, 2,116,593, \$11,137,102; king, 49,978, \$595,041; red, 1,059,676, \$31,989,531.

The fears that the restrictive regulations would be followed by a further decrease were unfounded. At the end of August the catch of 1926 was reported at 6,307,000 cases. When the final figures become available, it is probable that they will approximate the maximum product of 1918, 6,805,835 cases, and that the value of the salmon products will exceed \$50,000,000. The great increases of the year were pinks and reds, from the waters of central and western Alaska. Salmon products, other than canned, amounted in 1925 to \$1,751,369, the principal being mild cured salmon, \$1,085,466.

**HALIBUT.** The product of this fishery in 1925 was 10,971,651 pounds, value \$884,383. This was a reduction of 4,065,065 from the catch of the previous year, due to the closed season, under treaty, from November 16 to the following February 15. The thorough investigation of the life history of the halibut, as required by the treaty of Oct. 21, 1924, between Canada and the United States, was in progress. Data so far covered the progressive depletion of near-by banks, which has caused heavy declines since 1916 in the catch. Reports as to American caught halibut, landed in British Columbia, were not available.

**HERRING.** The most marked change in the fisheries of 1925, was the great expansion of the herring industry. The increases from 1924 were as follows: Plants from 32 to 54; investments from \$3,850,000 to \$6,100,000; personnel from 1407 to 1839, products from value of \$2,458,000 to \$3,852,000. The increases were due chiefly to the larger output of fertilizer and oil in southeastern Alaska, and the development of the herring fishery around Afognak Island. The chief products were Scotch cured herring, \$2,270,577; oil, \$999,045. Criticism was made of food waste in producing oil.

**MINOR FISHERIES.** There were caught 512 whales, yielding an increase from \$391,781 in 1924 to \$624,959 in 1925. The cod fishery increased in products from \$100,777 to \$128,803 in 1925. The clam industry decreased in value from \$629,412 to \$492,051. The 1925 products from shrimps, \$207,315; crabs, \$53,357; trout, \$6137; other fish, \$48,301.

**FUR-SEALS.** The rookeries were occupied by an increased number of seals, and the usual care in their management was exercised. The Asiatic rookeries are marked by decreases, the Russian

herd at the Commander Islands being estimated at 10,000, and the Japanese at Robben Island, 29,000. The United States share of Japanese seals, under the convention of 1911, numbered only 94 skins in 1924, and 87 in 1925. The American herd at the Pribilof Islands steadily increased. The Census reported 607,158 seals in 1924; 723,050 in 1925; and 761,281 in 1926. Pelts were taken only from surplus males, mostly three-year olds. In 1925 there were taken 23,879 fur-seal skins. There were sold in 1925, 23,879 pelts for \$787,990, and in October, 1926, a lot of 8256 for \$313,288. The fox industry of the Pribilof group was thriving. The output in the season 1924-25 numbered 341 blue and 28 white pelts; in the season 1925-26, 580 blue and 20 white pelts. At the sale in October 465 blue pelts brought \$24,740.

**GAME AND FUR CONDITIONS.** As a result of the researches of the Alaska Game Commission, under the law of Aug. 10, 1925, the Secretary of Agriculture issued revised regulations, which became effective Aug. 26, 1926. The revenues from licenses and fines are divided between the Federal Treasury and the Alaskan school funds; in the year it amounted to \$18,752. Systematic stocking of suitable animals was initiated on islands where game was scarce. The value of the pelts of land fur-bearing animals, shipped out in 1925, approximated \$2,500,000.

**MINERALS.** The production of minerals exceeds \$570,000,000 in value from 1880 to the end of 1926. In general the output, despite adverse conditions, was increasing irregularly, the values being \$17,457,000 in 1924; \$18,221,000 in 1925; and probably \$17,500,000 in 1926. The decrease in copper, silver and lead was due to lower value per unit.

**GOLD.** To the end of 1926 the value of gold mined was \$372,000,000. The output in 1926 was \$6,020,000 against \$6,360,000 in 1925. The increase in 1926 was due principally to increased work by dredges, especially in the districts of Fairbanks, Seward Peninsula (Nome), and the upper Yukon. Recent installations in the Hot Springs and Fairbanks districts ensured further increases. In the order named, the largest placer outputs were those of the Yukon Basin, the Seward Peninsula, the Cook Inlet-Susitna, and the Kuskokwim. The quartz outputs were of the Alaska Juneau, Chicagof Island, and Willow Creek. The Alaska Juneau handles over 10,000 tons of ore daily, and its output in 1925 had a value of \$2,184,000, of which \$2,030,000 was gold.

**COPPER and SILVER.** As about 80 per cent of silver comes from copper ores, the two metals are considered together. The output for both in 1926 was \$9,920,000 against \$10,844,000 in 1925. The decrease was due to a fall of 7 cents per ounce in the value of silver, and about 0.80 cent per pound of copper. The copper value to the end of 1926 was \$188,100,000. Most of the copper came from the mines of Kennecott, Mother Lode and Beatson. About 74,000,000 lbs. were mined, as usual.

**COAL.** The production was about 83,000 tons in 1926, valued at \$400,000. The only considerable market for the coal, was for fuel on the Alaska Railroad. The inability of the operators to control the market was shown by the importation of 32,087 tons during the year.

**MINOR MINERALS.** The output of lead, petroleum, marble, platinum, tin, etc., decreased, due

largely to low prices, from \$612,000 in 1925, to \$550,000 in 1926.

**PETROLEUM.** The only Alaskan output was from the 16 private wells of the Chilkat Oil Co., which amounted to 7963 barrels. This was refined and marketed locally, at Cordova. The inadequacy of this output was shown by the importation during the year of petroleum and petroleum products to the value of \$2,216,000. The exploratory work of the Standard Oil Co., on Pearl Creek, Alaska Peninsula, has been abandoned, after three years, during which a test well was drilled to the depth of 5034 feet. The final report recited that this well "proved wholly unproductive of petroleum . . . The well constituted a full test of the formation." The Associated Oil Co. drilled nearby a well to 3000 feet without success. Faith in the oil deposits of the Territory were evidenced by 57 applications for oil permits, filed during the year. They cover 138,445 acres, principally in the fields of Anchorage, Cold Bay and Yakataga. Exploratory work continued in the Chikalon field, and on Pearl Creek, Yakataga, with fair prospects of success. Examination of Naval Petroleum Reserve, No. 4, continued without any promising results.

**FORESTRY.** The public utility of the national forests have materially increased during the year. Under recent regulations the occupancy of suitable landsites had been greatly facilitated. For such utilitarian purposes there were at the end of 1926 220 homesteads, 98 industrial establishments, and, on small islands, 210 fox-farms. Forest administration was facilitated by 169 miles of road, and 259 miles of trails. Exportation of timber was made legal. The estimated total stand of timber is 85 billion feet, board measure. In the fiscal year 1925, the forest receipts were \$28,337, to the end of 1926 they totaled \$1,250,000; of these receipts 25 per cent is expended for local schools and public roads.

The most important actions of the year were the steps taken to utilize the Sitka spruce and western hemlock of the Tongass Forest, southeastern Alaska. Through excellent aerial surveys, the physical conditions of this forest were charted. Negotiations were initiated for the commercial use of two water-power sites, and of adjacent timber for the manufacture of paper-pulp. In this connection proposals were invited for the sale of suitable pulp timber, amounting to five billion board feet.

**REINDEER.** The deer in 1926 numbered over 350,000, and formed over 100 herds, nearly all on the coasts of Bering Sea and the Arctic Ocean. Two thirds were owned by Eskimo. The remaining third was being gradually commercialized; of these the meat was being exported, the amount in 1925 being near 340 tons. As the industry was facing disaster by deterioration of stock, overgrazing of grounds, improper herding, and local diseases, the Biological Survey, under Nelson, continued its researches for the improvement of the industry. Following the biology of the animal, its diseases and parasites, it was pursuing other factors. These cover development of interior ranges, forage and range management, carrying capacity of lichen and non-lichen ranges, feed methods, breed improvement, and disease control.

**FUR INDUSTRIES.** The Alaska Game Commission and the United States Biological Survey co-operated in the development and conservation of the game resources. By law under the Secretary

of Agriculture, regulations were issued May 18, 1926. Revenue from licenses was \$18,764, divided equally between the Federal Treasury and the Alaskan school fund. The value of the pelts of land fur-bearing animals shipped out in 1925 was over \$2500. The number and value of the principal pelts follow: White fox, 16,658, \$583,089; mink, 59,504, \$416,528; muskrat, 395,142, \$335,870; red fox, 19,489, \$331,313; blue fox (exclusive of the Pribilof, discussed above under *Fur-Seals*) 5493, \$273,710; lynx, 7920, \$134,640. In the fur industry, there has been invested over \$6,000,000 in the establishment and operation of over 400 fox farms, mostly on small islands.

**TERRITORIAL EDUCATION.** Schools are maintained under territorial supervision for white children and those of mixed blood leading a civilized life. There are 3 classes of schools. Those in the 17 incorporated towns end with a high school course. In these were 133 teachers and 2988 pupils, with an average attendance of 2466; the expenditures were \$315,112. In outlying districts there were 59 schools, with 74 teachers and 1309 pupils, averaging 1054 in attendance; the cost was \$164,248. Four special, or coöperative, schools had 55 pupils. For the purpose of training foreigners for American citizenship, there were night schools in 11 communities, at which were taught 62 women and 246 men, of 27 nationalities.

The only institution of higher learning is the Agricultural College and School of Mines. The courses cover Agriculture, Chemistry, Engineering, Home Economics and Mining. It coöperates with the Federal Bureau of Mines, for which it makes assays, analyses and tests. The plant cost \$273,000. The faculty numbers 14, and there are enrolled 94 men and 70 women. Tuition is free, while room and board are provided for \$55 per month.

**AGRICULTURE.** In 1926 barley, oats and wheat, except the very latest species, had matured fully, and the vegetables had a large yield. Dairy experiments were succeeding by cross breeding. Three farmer associations were organized, and the one at Fairbanks had built a flour mill, with a daily capacity of 25 barrels; it was expected that 35 or more tons of flour would be produced. Sheep raising on the Aleutian islands was progressing favorably; many sheep were added in the year.

**NATIVES.** Except those associated with industries, and the Eskimo herd owners, the conditions of the natives were, if possible, worse than ever. Congress fails to appropriate sufficient funds either for education or medical attendance. The efficient territorial officials, and the devoted agents of the Federal Bureau of Education, do their utmost with limited means. Less than half the children were being educated, and fewer yet being cared for medically. Greely in 1908 found that more than half the natives were suffering from contagious diseases. Governor Parks reports, "tuberculosis and other deadly diseases are ravaging the natives . . . practically without check." About 13,000 natives have no Federal care.

Some 4000 individuals, white and native, were dependent for 1000 miles along the Yukon, on one small hospital of a dozen beds. Conditions in the summer of 1926 were improved, by a medical launch to visit settlements and make a sanitary survey.

**SCHOOLS.** In 1926 the 126 schools for natives were open, on the average, 126 days, with an enrollment of 3582 pupils, and an attendance of 76.3 per cent. In addition to their regular duties,—wherein are taught home economics, and industrial training,—teachers supervise homes, administer medical assistance, and are sanitary engineers. They made 12,033 home visits, and treated medically 8311 patients. Besides an orphanage with 143 children, there were 5 hospitals, with medical staffs which cared for 2836 patients. As to condition, a medical examination in the extreme north of 500 children disclosed 736 physical defects, but only one child was found to be feeble-minded.

**SPECIAL FEDERAL ACTIVITIES.** The U. S. Geological Survey continued its indispensable surveys and researches, geologic and topographic, which by 1926 covered more than 40 per cent of the Territory. Besides its magnetic work, the U. S. Coast and Geodetic Survey has assisted safe navigation by its work on tides, currents, submerged ledges and shoals. The U. S. Light House Board installed 27 new aids to navigation. The U. S. Army Chief of Engineers improved harbors at Nome and elsewhere. The U. S. Biological Survey formulated and enforced regulations for game preservation, studied the reindeer problem, and coöperated with Canada on subjects of mutual interest. The Public Health Service did much sanitary and relief work. The wireless and cable service of the Signal Corps of the Army had been so efficiently performed as to receive the highest commendation of Governor Parks.

**ALBANIA,** *äl-bā'nī-ä.* A geographical district in the Balkans consisting of the former Turkish provinces of Scutari and Yanina and parts of the Turkish vilayets of Monastir and Kossova. The boundaries have been only partially fixed as a result of the work of an international commission appointed in 1922. The probable area of the country is estimated at about 17,347 square miles; the population is estimated at 831,877, of whom 584,675 were Mohammedan, 158,215 Greek Catholic, and 88,987 Roman Catholic. The country is divided into eight provinces named after the chief towns. The latter, with their estimated populations, are as follows: Tirana, 12,000; Scutari, 32,000; Korytza, 24,000; Elbasan, 13,000; Argyro Castro, 12,000; Berat, 8500; Valona, 6500; and Durazzo, 5000. The principal race groups are the Ghegs in the north and the Tosks in the south. No later statistics on education are available than those given in the last YEAR BOOK which mentioned about 548 primary schools with 854 teachers and 24,000 pupils. There is an American technical school at Tirana. Agriculture is very primitive, and large tracts of land remain uncultivated. The chief products are: Tobacco, wool, olive oil, corn, and cattle. The mineral wealth is reputed to be considerable although almost entirely undeveloped. There are also valuable forests. A coarse native cloth is manufactured from wool, but for the most part such manufactures as exist in the country pertain to the working up of agricultural products. No later figures for commerce and finance are available than those give in the preceding YEAR BOOK.

Albania was declared an independent country by the general in charge of the Italian forces, June 3, 1917, and a provisional government was set up at Durazzo. Under the constitution adopted in 1925 there is a parliament with 99 members and a senate of 18 members, 12 elected

and 6 nominated. The president of the republic at the beginning of 1926 was Ahmed Zogu (Sept. 1920, 1925).

**HISTORY.** As noted in the preceding YEAR BOOK, the situation of Ahmed Zogu was anything but secure as the year drew to a close because of the machinations of Fan Noli and his followers on the border. Throughout the year the situation remained comparatively quiet for Albania. In the early months by free use of exile and other drastic measures, Ahmed seemed to have completely crushed the remnant of Fan Noli's followers that remained in the country. The tribal chieftains seemed to be sufficiently cowed to show no emotion when Ahmed let it be known in the early months of the year that he intended to proclaim himself the king of Albania whenever he thought conditions were ripe. Although this particular event never occurred, Ahmed devoted his time to transforming Albania into a modern state. His task was almost hopeless because he was a believer that the reforms must come from him and not from the people. The enlightened despots of the eighteenth century had tried his method but had failed miserably.

Ahmed's life was very secluded because of the lurking fear of assassins and the continual striving and plotting of Fan Noli and his followers to unseat him. In September and October the press reported a revolt of more than ordinary proportions sponsored by Albanians in Italy. The report stated that government troops were compelled to flee to Jugo-Slavia where they were disarmed and that Ahmed Bey himself was forced to flee to Durazzo. These reports had little foundation on fact.

On November 27, a treaty was signed between Italy and Albania, which, while in accordance with Mussolini's policy of Balkan-Italian unanimity, caused a considerable furor throughout Europe and particularly in Jugo-Slavia, where the cabinet resigned because of it. The treaty, which was to run for five years and then could be renewed for four more, was a "compact of friendship and security." The feature of this treaty which distinguished it from treaties between Italy on one hand and Greece, Jugo-Slavia, and Rumania, on the other, was the fact that Italy undertook to guarantee Albanian territorial integrity. In other words it was an acceptance on the part of Albania of the working agreement reached by the Council of Ambassadors in their declaration of Nov. 9, 1921, but which was refused by Albania at that time. The treaty provided that each state was "not to conclude with other powers political or military agreements prejudicial to their mutual interests." Premier Uzonovitch of Jugo-Slavia resigned his post because of the publishing of the terms of this treaty. His action followed a similar move on the part of Foreign Minister Ninchitch, who declared that the signing of this treaty was a danger to peace in the Balkans. The press of Jugo-Slavia declared in no uncertain tones that the treaty in a secret clause guaranteed military aid to Ahmed Bey in case his position was attacked.

The Italian Foreign Office denied that there were any secret military provisions in the treaty and expressed diplomatic surprise that consternation should have been caused in Jugo-Slavia when the intent in the treaty was merely to maintain the status quo in Albania. Hopes that Albania would not ratify the treaty proved groundless when such action was taken on De-

cember 10. The press of Greece took a calmer attitude than that of Jugo-Slavia and stated that inasmuch as the treaty had to be filed with the League of Nations there was sufficient guarantee that the sovereignty of Albania was not threatened by the agreement with Italy.

On July 31, representatives of Albania, Great Britain, France, Italy, Japan, Greece, and Jugo-Slavia agreed to two protocols concerning the Albanian-Greek frontiers and the Albanian-Serb frontiers. These protocols are the outgrowth of the work of the commission appointed in 1921 to settle the boundary questions of Albania after it had been admitted to the League of Nations.

**ALBERS,** al'bĕrs, HENRI. A distinguished French dramatic tenor, died in Paris, September 12. Born in Amsterdam, in 1866, he received his musical education at the Conservatory of his native city, where he also made his debut, in 1889, as Mephistopheles in *Faust*. Massenet heard him in Brussels, and persuaded him to come to Paris, where he settled definitely and became a French citizen. In the early nineties he was heard in New Orleans, and during the season of 1898-99 he was a member of the Metropolitan Opera Company. He had the distinction of creating the rôles of Wotan (*Walküre*) Hagen (*Götterdämmerung*) and Hans Sachs (*Meistersinger*) in the French premières of those works.

**ALBERTA,** al-bŭr'tā. A northwestern province of Canada, formerly consisting of a large part of the Northwest Territories; bounded on the east by Saskatchewan, on the west by British Columbia, and on the south by the United States. Area, 255,285 square miles; population (1921), 588,454, as compared with 496,525 in 1916. The estimated population in 1925 was 651,700. The rural population in 1921 numbered 365,550, and the Indian, 8745. Chief towns with their populations according to the census of 1921: Calgary, 63,305; Edmonton, 58,821; Lethbridge, 11,097; and Medicine Hat, 9624. The movement of population in 1924 was: 14,244; deaths, 4661; marriages, 4077.

Although agriculture is the chief occupation there are valuable deposits of coal, natural gas, and petroleum. Besides the raising of grain, livestock and dairying are the chief industries. The acreage and crop of the principal grains in 1925 were as follows: Wheat, 5,704,547 acres, 114,043,000 bushels; oats, 2,397,350 acres, 88,230,000 bushels; barley, 552,727 acres, 14,757,000 bushels; rye, 134,322 acres, 2,421,000 bushels; flax, 5000 acres, 46,000 bushels; mixed grains, 15,026 acres, 410,000 bushels. It has been reported that Alberta contains 17 per cent of the coal reserve of the world. In 1924 the output was 5,203,713 tons. In the same year the value of the natural gas output was \$1,850,000. The total mineral production in 1924 was valued at \$22,749,662.

Executive power is nominally vested in a lieutenant-governor appointed by the Federal Government, but it is actually vested in an executive council or cabinet. Legislative power is in the assembly, which is elected by direct vote including woman's suffrage. Lieutenant-governor at the beginning of 1926, Dr. W. Egbert; prime minister, John Brownlee. At that time there were 59 members in the legislature, including 40 United Farmers; 12 Liberals; 3 Laborites; 3 Independents; and 1 Conservative. See CANADA.

**ALFALFA.** The United States Department of Agriculture estimated the alfalfa area of the

country in 1926 at 11,057,000 acres and the yield of hay at 27,496,000 tons, as compared with 10,852,000 acres and 28,439,000 tons in 1925. The average yield for the two years was 2.48 tons and 2.62 tons per acre respectively. As in the preceding year California ranked first in yield with 3,924,000 tons produced on 981,000 acres, or at the rate of four tons per acre. Nebraska still leading in area with 1,258,000 acres, the only State growing over a million acres, ranked second in total production with 2,566,000 tons or a little over two tons per acre. As compared with 1924 the area in Nebraska was reduced by 100,000 acres and the production by 693,000 tons. The 1926 yields of other important surplus-producing States were estimated as follows: Colorado 2,285,000 tons, Idaho 2,157,000 tons, Kansas 1,786,000 tons, Utah 1,609,000 tons, Montana 1,190,000 tons and Michigan 1,078,000 tons. Alfalfa production in Michigan during the past several years has shown much progress. The higher freight rates have increased the cost of alfalfa hay to the eastern farmer and tend to increase alfalfa production in eastern sections.

Alfalfa seed production in 1926 was reported by the Department of Agriculture as amounting to 56,500,000 pounds on a country run basis or not re-cleaned after threshing. The total production for the year was about 10 per cent below that of 1925, due mainly to a marked reduction in the seed yield of Utah, which, in 1925, produced nearly one-half of the total crop of the country. Prices paid to growers during the fall of 1926, averaging lower than the year before, ranged from \$12 to \$15 per 100 pounds on a clean seed basis for common alfalfa seed and from \$25 to \$35 for the hardier Grimm alfalfa. Approximately 40 per cent of the seed crop was reported as having left growers' hands by October 20 and 75 per cent by November 16. Imports of alfalfa seed into the United States for the year ended June 30, 1926, the smallest since 1921, amounted to 4,548,300 pounds as compared with 4,782,000 pounds in 1925, 12,818,400 pounds in 1924, 8,784,000 pounds in 1923 and 5,570,000 pounds, the average for the past fifteen years. Of the quantity imported in 1926, 4,218,000 pounds came from Canada, 221,700 pounds from Argentina and 107,300 pounds from Latvia. Of the 1,332,992 pounds of seed exported from the United States in the calendar year 1925, 758,134 pounds went to Argentina, 544,859 pounds to Mexico, 6831 pounds to Sweden, 5097 pounds to Germany and 4198 pounds to France.

Notices were issued Sept. 25, 1926, by the Secretary of Agriculture under the Federal Seed Act to the effect that alfalfa seed grown in Turkestan and in Africa is not adapted for general agricultural use in the United States. An amendment to this Act approved Apr. 26, 1926, prohibits the importation of alfalfa and red clover seed unless the same is colored or stained in conformity with the regulations stipulated. Consult Commercial Varieties of Alfalfa, *United States Department of Agriculture Farmers' Bulletin No. 1467* (Washington, 1926) and *Service and Regulatory Announcements No. 9*, Bureau of Plant Industry, United States Department of Agriculture (Washington, 1926).

**ALFALFA WEEVIL.** See ENTOMOLOGY, ECONOMIC.

**ALGERIA.** A colony of France forming politically a part of France itself, situated in northern Africa. It comprises the two great

divisions of Northern and Southern Algeria which in turn are divided as follows: Northern Algeria into the departments of Algiers, Oran, and Constantine; Southern Algeria into the territories of Ain Seфра, Ghardaia, Touggourt, and the Oases of Sahara. The total area is estimated at 222,180 square miles; population, including military forces, according to the census of Mar. 7, 1926, 5,992,770, of whom 5,455,408 were in Northern Algeria. The Europeans numbered 864,331. All but a small fraction of the population was in the towns and cities. Chief towns with their populations for 1921; Algiers, 206,595; Oran, 146,156; Constantine, 72,220 (these three being respectively the capitals of the provinces of the same name); Bone, 45,171; Tlemcen, 43,090; Sidi-bel-Abbes, 37,752; Blida, 36,384; Tizi Ouzon, 35,171; Philippeville, 33,808; and Sétif, 30,867.

The race groups in the native population are principally Arabs, Berbers, and Kabyles, and the prevailing religion is Mohammedanism. The chief Christian church is the Roman Catholic which maintains an archbishop and two bishops. For higher education there is a university at Algiers, with an attendance in 1924 of 1489 students, and there are special schools of commerce, hydrography, agriculture and the fine arts. There are also higher Moslem schools at Algiers, Constantine, and Tlemcen. Primary and infant schools in 1924 numbered 1485 (public and private) with 108,090 pupils.

**PRODUCTION.** Cereal crops in Algeria frequently have alternations of good and bad years. The yield in 1924 was particularly poor, but in 1925 quantities produced were not only twice as great as in the preceding year but also considerably higher than in 1923. The wine yield of the country improved somewhat as compared with 1924, but conditions for marketing were not particularly favorable, and profits realized were unsatisfactory. An attempt was being made to extend the production of more essential crops. The raising of esparto grass, used in paper making, has been decreasing steadily for a number of years. Since 1913, the number of olive trees in Algeria has been increased by 1,500,000, but production of oil has not been noticeably increased. The cork industry, which was dealt a heavy blow by the War, has been steadily recovering since 1920, and the production of cork by 1926 had regained figures comparing favorably with the pre-war output.

The manufacturing industries in Algeria are not highly developed. The production of alcohol is steadily increasing, however, partly as a result of recent uncertainty in the wine market. The tobacco crop of 1925 was a record one, and tobacco manufacturing is steadily increasing. Algeria now ranks eighth among world producers of tobacco. The production of geranium oil is becoming a considerable industry. An attempt is being made to improve native carpet making, and several factories have recently opened by the French to employ native girls and women in this industry. Most of the output is shipped to France. The mining industry is developing gradually. The production of iron and zinc ores and of coal, petroleum, and phosphates increased in 1925. A larger output of lead and zinc ores would find a ready market, and further concessions have been granted for lead, zinc, and iron mines. See table of production by countries under AGRICULTURE.

**COMMERCE.** The total Algerian import trade advanced in value from \$128,799,000 in 1913 to \$152,310,000 in 1925 (based on \$0.193 to the franc in 1913 and \$0.0465 in 1925). Exports showed a similar though less striking advance from \$96,726,000 in 1913 to \$111,778,460 in 1925. Like other colonial countries, Algeria is obliged to import a large proportion of the manufactured goods it uses. Textile products form the most important item of this class. Imports of linen, silk, and jute also reached considerable proportions. Other imports are automobiles, machinery, metal products, sugar, wood and lumber, gasoline and kerosene, and fertilizers. Exports consist mainly of the products of the soil and subsoil or are dependent upon them. Various kinds of wines and liquors occupy first place. More than one million sheep were exported in 1925. The cereal crops of Algeria in normal years supply a considerable surplus for export. Among the agricultural products other than foodstuffs in the Algerian export trade are cork, tobacco, goat and cattle hides, palm leaf, and esparto grass.

**FINANCE.** The budget estimates for 1926 were: Revenue, 485,138,192 francs; expenditures, 484,986,772; in each case an increase of approximately 100,000 francs over the preceding year. The chief sources of revenue in the 1926 budget were taxes of various kinds, posts, telegraphs, and telephones, and stamp and other duties. The principal items of expenditure were service on the public debt, administration, education, and public works.

**COMMUNICATIONS.** In 1924 there were 2564 miles of railway open for traffic. The receipts for that year amounted to 172,774,205 francs. In 1925, 4067 vessels of 6,239,459 tons net entered Algerian ports and 4523 vessels of 6,832,229 tons cleared. In 1924 the merchant marine of Algeria consisted of 414 vessels of 22,108 tons net.

**GOVERNMENT.** The central executive authority of the local government is the governor-general who directs all the services with the exception of the non-Mussulman departments of public instruction, justice, worship, and the treasury, which are each under a separate minister. The governor-general, with the minister of the interior, prepares the budget which is voted by the so-called Financial Delegations and by the Special Council. The colony sends to the home parliament one senator and two deputies for each department. Governor-general at the beginning of 1926, M. Maurice Viollette (appointed May 12, 1925).

**ALLEGHENY COLLEGE.** An institution of the higher learning at Meadville, Pa.; non-sectarian in policy but under the patronage of the Methodist Episcopal Church; founded in 1915. The enrollment for the fall of 1926 was 601, distributed as follows: graduate students, 1; seniors, 121; juniors, 136; sophomores, 146; freshmen, 196. For the 1926 summer session the registration was 97. The faculty numbered 39. The productive funds of the college amounted to \$1,300,000, and the income for the year was \$284,682. The library contained 65,000 volumes. During the year a new central heating plant was erected at an expense of about \$150,000. James A. Beebe, D.D., LL.D., was inaugurated as president during the year.

**ALLIANCE FRANÇAISE, FÉDÉRATION DE L'.** An association of clubs and groups formed for the purpose of encouraging and furthering

the study and cultivation of the French language, literature, art, and history in the United States. It was established in 1902, and in 1926 comprised over 230 local branches, including French Alliances, affiliated societies, and French clubs in universities, colleges, and schools. Eleven new groups were added to the Fédération during the year. Each year the Alliance Française brings from France as official lecturers, one or more eminent men of letters who are prepared to speak before all the affiliated societies and clubs wishing to hear them. It also organizes lecture tours for distinguished French travelers, and for French lecturers who live in America. It assists in organizing courses in the French language and literature, in coöperation with the leading universities, and encourages its groups to engage in dramatic performances and debates in French. The official lecturers from France during the year 1925-26 were M. Charles Castre, Professor at the Sorbonne, and M. Benjamin Vallotton, well-known writer and journalist. In 1925, the French Academy awarded Le Grand Prix de la Langue Française, its most important award, to the Fédération. This prize formed the nucleus of the Permanent Endowment Fund of \$100,000, of which \$40,000 had been raised at the end of the year. The Assemblée Générale of the Fédération was held at the Hotel Plaza, New York City, on April 10th, 1926, and was attended by representatives of the various groups. The official organ of the Fédération is *L'Echo de la Fédération*. It issues annually its *Bulletin Officiel*. Headquarters are at 32 Nassau Street, New York City. Officers for 1926 were: Frank D. Pavey, president; William Nelson Cromwell, general vice-president; Albert Blum, president of the executive committee; Maurice Mercadier, treasurer; Felix Weill, general secretary.

**ALPHONSA, MOTHER MARY.** See LATIHOR, ROSE HAWTHORNE.

**ALSACE-LORRAINE,** al'zäs'lör'an'. The provinces taken from France by Germany after the Franco-Prussian War of 1870-71 and restored to France after the armistice of Nov. 11, 1918; constituting at present the three French departments of Bas-Rhin, Haut-Rhin, and Moselle. Total area, 5605 square miles, total population in 1921, 1,709,749. The area and population are distributed among the three departments as follows: Bas-Rhin (formerly Lower Alsace), 1848 square miles, and 651,086 inhabitants; Haut-Rhin (formerly Upper Alsace), 1354 square miles, and 468,943 inhabitants; Moselle (formerly Lorraine), 2403 square miles and 589,120 inhabitants. The following account of the agricultural and industrial situation of Alsace and Lorraine was supplied by the United States Bureau of Foreign and Domestic Commerce. The general situation in Alsace-Lorraine was favorable in 1925, with little unemployment and with wages fairly well adjusted to the cost of living. The agricultural yield was restricted as a result of unfavorable climatic conditions. Only the wheat yield, among the cereal crops, showed some noteworthy improvement as compared with 1924, while vegetable, beet, and fodder crops, except natural hay, were also less abundant, though yielding good returns on account of increased prices. The wine crop was much reduced and of poor quality. Alsace-Lorraine contains the only petroleum fields of commercial importance in France, but supplies

only about 10 per cent of the total consumption. Iron ore is mined in large quantities and showed a gain to 15,465,514 metric tons, as compared with 12,480,652 the previous year. Potash production was affected favorably by the agreement between the Alsatian and German mines for a division of the world market. Production of crude salts in 1925 advanced to 1,926,036 metric tons, as against 1,664,764 in 1924. Coal production advanced only to a slight degree, reaching 5,279,319 as against 5,269,132 metric tons, but new workings continued to be exploited. The iron and steel industry of the Moselle district, like that of the rest of France, made considerable progress in 1925. Pig-iron production was increased to approximately 3,200,000 metric tons from 2,980,000 in 1924, while the crude steel output rose to about 2,700,000 tons from 2,364,000 tons in the earlier year. Since January, 1926, the autonomy of the port of Strassburg has been established and was expected to give a certain competitive advantage for that year.

**ALUMINUM.** The amount of aluminum in the form of primary metal produced in the United States in the year 1925 was stated by the U. S. Bureau of Mines to be valued at \$36,430,000, while the secondary metal was estimated at a value of \$24,816,000. The primary metal was somewhat less in value than in 1924, when it was \$37,607,000, but the secondary metal was greater in value, as in the earlier year the estimate was \$14,596,300. In 1925 crude and semi-crude aluminum, imported into the United

Canadian plant of the Aluminum Company of America was put on the market during the autumn of 1926, while in this year increased facilities for the manufacture of this metal were also under construction in England, France, and Norway. It was reported that the French and German aluminum makers had reached an agreement similar to that prevailing before the World War. In the United States the exports of aluminum ingots, scraps, and alloys were considerably less in 1926 than in 1925, but there was an increase in the export of plates, sheets, bars, and strips. In 1926 the imports of crude aluminum aggregated 74,878,767 pounds, valued at \$17,107,690; while the manufactures of aluminum, consisting of plates, sheets, bars, hollow ware, etc., had an aggregate value of \$394,745. The exports of aluminum in 1925 were valued at \$10,191,526, and in 1926, at \$9,193,563. In the latter year the manufactures of aluminum, including plates, sheets, bars, strips, and rods, aggregated \$4,314,323 as compared with \$4,221,858 in 1925. The domestic quoted price of aluminum 99 per cent pure was 28 cents a pound from the beginning of the year until mid-July, when it softened to 27 cents to 28 cents, and at the first of September it was at 27 cents, the same as the 98-99 per cent grade, being quoted at this figure for the remainder of the year. See BAUXITE.

*Engineering and Mining Journal* (New York) gave the world production of aluminum in the accompanying table.

WORLD PRODUCTION OF ALUMINUM  
As Reported by the Metallgesellschaft, in Metric Tons

	1913	1921	1922	1923	1924	1925
United States ..	20,900	24,500	33,600	58,500	68,300	62,000
Canada ..	5,900	8,000	10,000	10,000	8,000	8,000
France ..	14,500	8,400	12,000	17,000	18,500	20,000
England ..	7,600		5,000	8,000	12,000	15,000
Norway ..	1,500	7,000	4,900	13,300	22,000	22,000
Italy ..	800		800	1,500	2,000	1,800
Switzerland ..				15,000	20,000	22,000
Germany ..		27,000	30,000	15,900	18,700	26,200
German Austria ..				1,500	2,200	3,000
Total ..	68,200	74,900	96,300	140,700	171,700	180,000

States, amounted to 41,997,178 pounds, valued at \$9,805,645, while the manufactures of aluminum amounted to \$301,122 in value. It was the greatest amount, with the single exception of 1920 when the total value of the imports was \$13,077,022. The exports of crude and semi-crude aluminum in the United States in 1925 aggregated 12,642,034 pounds, with a value of \$3,365,815, both amounts and values being the greatest of any year since the record war year of 1918. The manufactures of aluminum exported in 1925 aggregated in value \$2,691,256, making the total value of the exports for the year \$6,057,071.

In 1926 the domestic production of aluminum was greater than in 1925 and there was an increased demand for the metal, the imports of crude aluminum being very large. In 1925 it was estimated that the automobile industry alone consumed 75,000 tons of aluminum, and, inasmuch as it increased its production during the following year, there was a corresponding demand for this metal. Likewise there was an increased call for aluminum in the electrical and paint industries, and household utensils of aluminum were in more active demand in 1926 than in 1925. The first production from the

**AMENDOLA**, a'mändölä, GIOVANNI. Italian professor and publicist, died at Cannes, France, April 6 as a result of injuries received at the hands of Fascisti in the previous July. He was born in 1884, and on entering public life espoused liberal and democratic views. During the World War he served at the front, and in the political developments and reaction resulting in Italy after the War, he was an outspoken Constitutionalist, and urged that the situation should be treated with tolerance, and not be made a pretext for depriving the Italian people of constitutional rights. In 1923 he was assaulted in Rome and beaten insensible, but his spirits were undaunted and in the March elections of 1924 he was elected in the Campania constituency. He made many notable speeches and became the recognized leader of the opposition. He published in 1924 two notable works: *A Liberal Battle and Democracy*. His work as a leader of the opposition involved the withdrawal from Parliament of himself and other liberals, as they refused to accept the Fascisti state. In July, 1925 Signor Amendola fought a duel with the editor of the *Tribuna* and shortly afterwards he was beaten by local Fascisti at Montecatini in Tuscany, whither he had gone



for the Summer holidays. Although he was able to proceed the next day by train to Rome, the assault produced permanent injuries which led to his death. That his life was threatened was recognized by the fact that the very day he was injured he was under the protection of Carabinieri, but they were unable to prevent the attack. Amendola was considered one of the few comparatively young men in Italy who would have been a figure in Parliamentary government, if normal conditions at any time should be restored.

**AMERICAN ASSOCIATIONS AND SOCIETIES.** For various scientific and other organizations whose official titles begin with the word American, see under the important descriptive word of the title.

**AMERICAN LEGION.** An organization of World War veterans chartered by Congress "to uphold and defend the Constitution of the United States; to maintain law and order; to foster and perpetuate a 100 per cent Americanism; to preserve the memories and incidents of the association in the Great War; to inculcate a sense of individual obligation to the community, state and nation; to combat the autocracy of both the classes and the masses; to make right the master of might; to promote peace and good will on earth; to safeguard and transmit to posterity the principles of justice, freedom and democracy; to consecrate and sanctify the comradeship of the members by devotion to mutual helpfulness." On September 11, 1926 the membership was 673,229. The eighth annual convention was held in Philadelphia, Pa., October 11-15, with an attendance of 1042, representing every state, the District of Columbia, four territorial and eight foreign posts. In his report as retiring commander John R. McQuigg cited the accomplishment of two major objectives during the year: one an increase in membership of 79,614 over 1925, the first time in Legion history that the membership had increased during the year; the other the completion of the \$5,000,000 endowment fund begun in 1925, the interest of which was to be used to aid disabled World War veterans and to care for the dependent children of veterans.

Among the distinguished guests at the convention were Vice President Charles G. Dawes and General John J. Pershing, both of whom made brief addresses. The Vice President declared that the American Legion, in taking up the work of increasing impartial voting in the United States, the crying need of the hour, had "again risen to the defense of our government in a time of great need, when it is faced with what may be called its greatest danger." The convention reaffirmed the Legion's faith in the fundamental principles enunciated in the National Defense Act of 1920, as amended, declined to reaffirm its position in favor of a permanent Court of International Justice, and adopted as the main objective for 1927 community betterment, each of the 10,258 posts of the Legion to seek out and accomplish an outstanding service in its own community that would best benefit every citizen. It was voted to hold the convention in France in September, 1927, preliminary arrangements for 30,000 Legionnaires to make this trip having been worked out in advance of the official action of the convention. San Antonio, Texas, was chosen as the place for the national convention in 1928.

*The American Legion Monthly* was the official publication, with offices at 2457 East Washington Street, Indianapolis, Ind. It was changed during the year from a weekly. The American Legion Auxiliary, the women's branch of the Legion, and *La Société des 40 Hommes et 8 Chevaux*, both of which have national headquarters in the War Memorial Building in Indianapolis, cooperated in the activities of the Legion during the year. The officers elected for 1926-27 were: Honorary Commander for Life, General John J. Pershing, wartime Commander of the A. E. F.; National Commander, Howard Paul Savage, Chicago; Vice-Commanders: J. G. Sims, Washington, D. C.; Thomas Busha, Helena, Mont.; Dr. John G. Towne, Waterville, Me.; Stafford King, St. Paul, Minn.; John E. Curtiss, Lincoln, Neb.; Adjutant, James F. Barton, Indianapolis; Chaplain, Rev. Joseph L. N. Wolf, Philadelphia, Pa.; Historian, Eben Putnam, Wellesley Farms, Mass.; Treasurer, Robert H. Tyndall, Indianapolis; Judge Advocate, Robert A. Adams, Indianapolis. The national headquarters are located in the War Memorial Building, Indianapolis, Ind.

**AMHERST COLLEGE.** An institution for the higher education of men at Amherst, Mass.; founded in 1821. For the 1926 fall term 707 students were enrolled, including nine graduate and special students. The faculty numbered 67. The productive funds of the College amounted to \$7,000,000, and the income for the year to \$553,000. The library contained 142,000 volumes. Morrow Dormitory, designed to accommodate 63 students and one member of the faculty, the gift of Mr. and Mrs. Dwight W. Morrow, was opened for occupancy at the beginning of the year. President George Daniel Olds presented his resignation at the October 16th meeting of the Board of Trustees. At the end of the year his successor had not been selected.

**AMMONIUM SULPHATE.** See FERTILIZERS.

**ANAEMIA, PERNICIOUS.** In the earlier attempts to diet patients with this malady, there was no thought of cure and the dietary articles were selected for their content of iron or some of the organic bloodmaking principles. By 1926 it had become possible to arrest some of the cases through the use of scientific principles of diet. In the *Journal of the American Medical Association* for August 14, there were two articles on this subject. The authors of the first, Minot and Murphy, have devised a blood regenerative diet in which full protein, iron and purin bodies figure largely and which is carried out by feeding with beef or calf liver, or sheep or lamb kidneys along with beef or mutton muscle meat; plenty of vegetables with low carbohydrate content (1 per cent to 10 per cent); raw fruits and a little butter or cream. For variety one may have an occasional egg or glass of milk. The calory requirement is to be made up with sufficient dry bread, potato and cereal. If the entire ration is too bulky at first, the patient must make sure of the liver, fruit and vegetables. The other paper by Koessler and associates differs chiefly in recommending more fats to obtain the fat-soluble vitamin (codliver oil, cream, butter, etc.). Insisted on are spinach, lettuce, oranges, tomatoes, and liver, kidney and sweetbreads as the only meats. The sole medication is dilute hydrochloric acid. In regard to the more radical measures Dr. H. W. Jones (*Journal of the*



*American Medical Association* for May 29) was satisfied that small and frequent transfusions give much the best results, due to great improvements in technic. Blood typing, which was introduced as long ago as 1890, had been improved by greater individualization through the method of cross-agglutination; so that the recipient receives blood as much like his own as possible. Transfusion must take place without coagulation anywhere and if possible without the old addition of sodium citrate; so that the Unger method seems the best. Formerly too much blood was transfused but it is no longer thought necessary to give more than 350 to 450 cc. save in unusual cases and some physicians do not exceed 100 cc. which is the best amount to give for the first transfusion. The operation should be repeated every three to five days. The author has transfused 30 patients in seven years and of these 20 are still living with 13 able to work. In several of the patients the blood has been restored to its normal status, although this is not necessary to secure improvement. See FOOD AND NUTRITION.

**ANALYTICAL CHEMISTRY.** See CHEMISTRY.

**ANATOLIA.** The name given to that portion of Turkey which corresponds to Asia Minor; the peninsula at the western extremity of Asia bounded by the Black Sea on the north and the Mediterranean Sea on the west. Area estimated at 200,000 square miles; population at approximately 9,000,000. See TURKEY.

**ANDORRA,** ân-dor'ra. One of the smallest republics in the world, under the joint suzerainty of the French president and the Spanish bishop of Urgel; situated in the valley of the Pyrenees. Area, 191 square miles; population, 5231, scattered in six villages. The inhabitants speak Catalan and are Roman Catholics. The government is under a council of 24 members which nominates a First Syndic, the executive.

**ANGINA PECTORIS.** The great number of deaths with the years of suffering from this malady have prompted efforts in the direction of early recognition and prevention through the determination of the incipient manifestations. The result has not been very encouraging thus far. Dr. Kahn of Philadelphia published in the *American Journal of the Medical Sciences* for September a report of 80 fully developed cases, of which only about one third had shown any warning symptoms and even these were vague and equivocal. They comprised fatigue, short breath and palpitation on exertion and attacks of asthma referable to the heart; heartburn and a sense of heat and pressure about the stomach and attacks resembling fainting fits with the exception that consciousness was not lost. Individual patients complained of some one symptom, but apparently none of several, which adds to the lack of value of the evidence.

In regard to the surgical treatment of this affection by division of the sympathetic nerve in the neck many more operations have been performed than have been placed on record. Dr. Coffey of San Francisco has operated on 35 patients, while Leriche, a well known French surgeon, has alone performed operations on more than 80 patients. It is not denied that marked relief is the rule after the intervention, but cases require following up over long periods before the end results can be known; while it is also possible to cause collateral injury and the

operation is by no means free from danger. In the *Journal of the American Medical Association* for June 26 there are papers by Cutler and Fine, McNealey and others with a full discussion. The first named authors believed that the operation has come to stay, although it was as yet too soon to lay down general rules as to when and how to operate. McNealey expressed the opinion that the theory and practice of the operation are alike wrong and that it should be abandoned for it carries with it difficulties of technic and is followed by mishaps. The same objections apply to all surgery in which the sympathetic nerves are divided, and before going further we must have better notions of the anatomy and physiology of the sympathetic system. Dr. A. Lambert spoke of the varied course and distribution of the cervicothoracic sympathetic and warned of excision of the stellate ganglion which may result in death from acute oedema of the lungs. Dr. Coffey already mentioned has lost no patient from the operation or the disease itself, and has obtained relief in every case; his experience extends back five years.

**ANGOLA,** ân-gô'la. or **PORTUGUESE WEST AFRICA.** A colony on the west coast of Africa, belonging to Portugal since 1575, with the exception of the years 1641 to 1648 when it was held by the Dutch. Its present boundaries were assigned by conventions of May 12, 1886, Dec. 30, 1886, May 25, 1891, and June 11, 1891, separating it from the French Congo, Southwest Africa (afterward united with the Union of South Africa), Belgian Congo, and British South Africa (now Union of South Africa), respectively. Area, 484,800 square miles; population, according to Portuguese estimates, 4,119,000, but the native population was estimated as low as 2,124,361 in 1914. Capital, Sao Paulo de Loanda; other important towns, Kabinda, Ambriz, Novo Redondo, Benguella, Mossamedes, and Port Alexander.

According to the latest educational statistics there were 52 government schools, seven municipal schools, and two private schools, with about 2410 pupils altogether. The chief products are coffee, rubber, wax, sugar, vegetable oils, coconuts, ivory, oxen, and fish. Rubber, which has been an important industry, by 1926 was nearly exhausted, and cotton growing, which in the past was highly remunerative, had declined, although recent reports indicate its revival. Mineral products include malachite, copper, iron, petroleum, and salt, and gold has also been found. The latest trade statistics are those for 1913 when the imports amounted to 242,875,490 escudos and the exports were 201,112,173 escudos. The bulk of both the export and import trade was with Portugal. Angola has its own budget, the revenues for which are largely derived from taxation and customs duties, although from time to time the home government grants a subsidy. The estimated revenue and expenditures for the year 1923-24 balanced at 203,725,000 escudos. The debt in 1924 was 464,507,225 escudos. In 1926, 818 miles of railway were open for traffic. The government is in the hands of a high commissioner vested with large powers, whose seat of government is at Loanda. The colony is divided into twelve administrative districts, each under a governor.

**ANHALT,** ân'hált. A German free state, formerly a duchy of the German Empire, bounded by the Prussian provinces of Branden-

burg, and Saxony. Area, 888 square miles; population, according to the census of 1925, 351,506. Capital, Dessau, 70,241 inhabitants in 1925. Other cities with their populations in 1925 are: Bernburg, 34,178; Cöthen, 26,588; Zerbst, 19,229; Rossau, 12,306; and Coswig, 10,089. The majority of the population adheres to the Protestant religion. The estimated revenue and expenditure for the fiscal year, 1925-26 balanced at 20,300,000 marks. The public debt on March 31, 1924 was 2,728,892 marks and the value of state property on March 31, 1925 was 250,000,000. The government under the constitution of the free state of Anhalt dates from July 18, 1919, and by the law of Nov. 6, 1922, the administration is carried on by a ministry of state consisting of the prime minister or minister president and either one or two other ministers. As a result of the election held in November, 1924, the following parties were returned to the legislature: Socialists, 15; Middle Class Party, 14; Democrats, 4; Communists, 4; and National Socialist, 1.

**ANIMAL DISEASES.** See VETERINARY MEDICINE.

**ANNAM,** än-nüm'. A protectorate belonging to France, forming a part of French Indo-China (q.v.), whose present status was established by the treaty of Feb. 23, 1886. Area, about 39,758 square miles; population in 1924, 5171, including 1986 Europeans, exclusive of the military forces. Capital Hué, with a population of 60,611; largest town, Binh-Dinh, with a population of 74,400. The population is Annamite in the towns and along the coast, while Moi tribes inhabit the highlands. The products include rice, cotton, corn, and other cereals, mulberry, the arica nut, cinnamon, tobacco, sugar, betel, manioc, and bamboo. The forest products include coffee, dye, medicinal plants, caoutchou, and cardamoms. Raw silk is also produced. Probably the most important product is rice. Of the minerals, copper, zinc, coal, hematite, iron and salt are worked to some extent. Exports in 1925 totaled 44,304,579 francs; the imports totaled 40,038,697 francs.

The nominal head of the government is the king, but actual power is vested in the French Resident Superior. French troops are in occupation of a part of the citadel in the capital. King in 1926, Vinh-Thuy, who succeeded to the throne Nov. 6, 1925. During his minority the government is in the hands of a regency Council.

**ANNELIDS.** See ZOOLOGY.

**ANNIVERSARIES.** See CELEBRATIONS.

**ANTHROPOLOGY.** With the steady growth in the number of anthropologists the year 1926 saw a full quota of special studies. There was a dearth of fundamentally important broad studies, however, and no striking new discoveries. Even the field of fossil man which supplied startling news for several years past, offered nothing beyond two uncertain finds of earliest proto-human types from Asia. African ethnography was notably absent from the record during the year.

One promising novelty of the year was the appearance of a half dozen books from the presses of American publishers of general literature. While English, French, and especially German publishers have long made it a practice, heretofore Americans have been unwilling to underwrite the cost. It must mean that a general

interest has been aroused in the reading public.

Considering the general apathy of the French to the anthropological problems of their colonies in the past, great significance may attend the establishment of a new Institute of Ethnography at the University of Paris. In conjunction with various schools a series of courses covering the whole field are offered. These have special reference to the ethnography and languages of Africa and Indo-China, in particular those of the French possessions. The intentions were to prepare colonials to collect data and equip ethnologists for administrative service. The institute was financed by contributions of the governments of France and her colonies, and was under the direction of Rivet, Mauss, Lévy-Bruhl, Delafosse, and others.

A Catholic Anthropological Conference was inaugurated at a meeting held at Washington in April to coördinate the activities of missionaries and laymen, especially in the Americas. In view of the intimate acquaintance with the natives of some of these missionaries, this promises to duplicate the excellent work of the *Anthropos* group in Vienna.

An International Institute of African Languages and Cultures was formed in London under the joint direction of the well-known African authorities, Delafosse and Westermann, to coördinate studies in that continent, primarily linguistic.

**NEW JOURNALS.** New journals continued to appear. *Publications from the Institute of Comparative Research in Human Culture* at Oslo includes such well-known names as Meillet, Vinogradoff, Jespersen, Mauss, and Boas. The *Ethnologischer Anzeiger* (Stuttgart) edited by M. Heydrich and G. Buschan represents an effort to supply for a third field what the *Anthropologischer Anzeiger* and the *Vorgeschichtlichen Jahrbuch* accomplish for theirs. It was to contain bibliographies arranged by culture provinces and brief reviews. The first number had a bibliography of North and Middle America from 1924. *Ipck: Jahrbuch für Prähistorische und Ethnographische Kunst* (Leipzig), edited by H. Kühn, added to the number of journals which have appeared in Germany to serve special interests. It remained to be seen how far so many journals could be supported by a quite limited number of anthropologists. In Munich the researches of W. S. Scheidt, E. Fischer, H. F. K. Günther, and others in Teutonic racial problems take the form of a quarterly *Volk und Rasse*.

**THEORETICAL ETHNOLOGY.** There had been a tendency in the last two decades to take into account the variability of human conduct in cultural situations. There was very little attention to this in the accounts written during the last century. Cultures were described as though they were patterns of thought and action to which every individual in the particular society conformed absolutely. The change was due partly to the recognition that conflicting testimony by native informants could not always be harmonized, but chiefly to the realization that new customs arose from the variant behavior of individuals. Cultures are now thought of as dynamic, not static: no account of standard practices does justice to the ferment in culture. The growing interest in psychology also induced the change. This is of course not uniformly apparent in all works, for the majority do not

deal with situations where psychology is explicit.

One such protest against the typological exposition is B. Malinowski's *Crime and Custom in Savage Society* (New York). Considering the variability of human nature it hits wide of the mark to speak of an "automatic submission" of the savage to the dictates of his community. Human frailties, passions, ambitions, and non-conformity are all present in savage society and the savage is torn between the task of compliance and the desire for evasion of the rules as his personal interests may demand. The individual has a wide variety of mutual obligations to his fellows; he is subject to conflicting codes and compulsions of varying degree. His personal experience determines how far he conforms or evades. Not all customs are equally law. Civil law, by Malinowski's "minimum definition," "consists then of a body of binding obligations, regarded as a right by one party and acknowledged as a duty by the other, kept in force by a specific mechanism of reciprocity and publicity inherent in the structure of their society."

The place of *Myth in Primitive Psychology* (New York) by the same author is in the main stream of everyday thought, not in an aside of intellectually constructed symbolism or literature. All the views and motives of a people appear in their tales and the tales in turn form sanctions for actions and surcease from emotions. The author, it must be noted, is not interested in the tales as literature; in fact he quite ignores the whole problem of form and literary history.

The historical scheme of the extreme diffusionist school on the Continent has heretofore been known chiefly through the writings of its Austrian branch, headed by Schmidt and Koppers, whose views differ in some particulars from those of the founder, F. Graebner. The latter's pragmatic *Methode der Ethnologie* (1911) is now amplified in an extended paper (*Ethnologie in Kultur der Gegenwart*, Leipzig, 3435). Although this appeared in 1923 it was only generally available in 1926. Starting from an analysis of south Pacific cultures, this author posits the existence of a series of culture strata found there, which can also be discriminated in the cultures of all primitive peoples. Graebner does not explain the basis of his first analysis. The most archaic culture stratum is represented by the extinct Tasmanians. This was followed by an Old Australian culture, best represented in southeast Australia and including beehive huts and patriarchal life. The third layer, the Totemistic culture, characterized by totemism with paternal descent, is found in central and eastern Australia but also in New Guinea and Melanesia. The Matrilineal Moiety culture which followed involves horticulture and exogamous matrilineal moieties; it is barely known in Australia but is rather Melanesian. The Melanesian Bow-culture is mainly restricted to that region; it includes the flat bow, pile dwellings, etc. Finally in Oceania there developed the Polynesian culture with its outrigger canoes, caste, etc. In Africa, for example, the Old Australian culture is represented by the Bushmen and Pygmies; the Totemistic is widely scattered. Graebner modifies his Oceanic scheme somewhat to make the west African culture correspond to a mixture of Melanesian Bow- and Moiety-cultures. Later African cultures are not

related to the Oceanic. In general it appears that the more primitive cultures are early waves of migration which carried whole cultures to the peripheral regions of the world, where subsequently local elaborations developed. Graebner has receded somewhat from his earlier position in that he now holds that partial diffusions take place as well as migrations of whole cultures. In this he approaches slightly the position of most American ethnologists.

The well-known views of W. Schmidt on primitive monotheism are again presented with great richness of treatment in a second edition of his *Der Ursprung der Gottesidee* (Münster, Westphalia). The first volume, the historical and critical part which alone has appeared runs to 800 pages. The three volumes to follow will present their material according to his general scheme of cultural development. The second will deal with the archaic culture stratum, the third with the religion of the patriarchal cattle raising nomads (Ural-Altaic, Semito-Hamitic, and Indo-European peoples), and the final volume with a regional presentation of the patrilineal totemistic and matrilineal agricultural societies and their later mixed forms. The present volume is noteworthy for the wide range of earlier authors subjected to critical scrutiny.

The discussion of *The Relation of Nature to Man in Aboriginal America* (New York) by C. Wissler is rather a formulation of a general law of cultural diffusion. He holds that all traits (somatic and cultural) tend to spread in all directions; appearing first at a centre from which they are diffused in simple form; subsequent elaborations appear in the same spot and are diffused in turn, but less widely. Thus distribution usually assumes a concentric zoned form. We can thus infer the relative chronology of the forms from the space relations. Areas of culture distribution tend to coincide with ecological areas, hence the zoned form is due to the relative richness of the centre where best conditions are provided for human adjustment.

A *New Objective Method for Showing Special Relationships* is proposed by Clements, Schenck, and Brown (*Amer. Anth.*, 28, 585) to indicate relation of actual agreements or disagreements between two cultures to what might have been expected on the basis of chance (correlations of mean square contingency). Applying this to Polynesia, they find a linkage of Samoa and Tonga, Hawaii and Society Is., Marquesas and New Zealand, and Society with all the others except the last. *An Introduction to Anthropology* by W. D. Wallis (New York) also appeared.

The past decade has seen a marked tendency toward reducing the number of linguistic stocks in America. A salutary warning that the methods employed are open to doubt is issued by F. Boas in *Die Klassifikation der indischen Sprachen* (*XXI Int. Cong. Americanists*, the Hague, 305). Boas shows that a number of phonetic and grammatical elements are distributed over continuous areas among languages of widely divergent stocks. This means that these elements tend to spread rather than that two stocks with the same element were differentiated from a common prototype. In fact the number of early stocks must have been much greater than at present, rather than that modern stocks are developed from a few languages.

**PHYSICAL ANTHROPOLOGY.** The announcement in September of a new find of *Pithecanthropus*

*erectus* by Professor Heberlein near the site of Dubois' original discovery at Trinil, Java, gave rise to the hope that knowledge of this first man-like type would be materially increased. It now appears that only a cast of a skull was found, with the facial parts missing, and even its geological provenience is uncertain. The first discovery of proto-human remains on the continent of Asia are a molar and premolar tooth found at Chou Kou Tien, southwest of Peking by J. G. Andersson. The fossiliferous bed in which they lay is clearly of the same age as *Pithecanthropus* (Upper Pliocene or Lower Pleistocene). How far these teeth are homoid remains to be seen (*Nature*, 1926, 491, 639, 733). A new skull of Mousterian age is reported from Gibraltar.

A comparison of *Australopithecus africanus* (the Taungs skull) with young anthropoids of the same degree of development by J. Matiegka (*Anthropologie*, Prague, 4, 38) confirms the opinions of others that this is not homoid (see YEAR BOOK for 1925, p. 39). The cranial vault resembles that of a gorilla, the profile a chimpanzee, and lack of superorbital ridges an orang, but the combination presents a new form.

E. A. Hooton suggests that the best "Methods of Racial Analysis" (*Science*, Jan. 22, 1925) consist in testing for racial homogeneity by ascertaining how closely the most frequently occurring individual types approach the means of the separate characters measured. This means a discrimination of the various racial subtypes in a population on the basis of the investigator's experience, and a determination of the certainty of the difference for each character of each type from the mean of the whole group for that character. If the difference proves real, statistically speaking, the subtype may be matched with racially pure local groups. All these comparisons are made on the basis of a combination of a large number of characters. In case of an agreement here, Hooton apparently believes, we must hold that the subtype is racially the same as the pure type with which it was compared.

An enlarged edition of A. C. Haddon's *Races of Man* (New York) and H. H. Wilder's *The Pedigree of the Human Race* (New York) pass over familiar ground.

No very new view of *The Peoples of Asia* (New York) is presented by L. H. Dudley Buxton. "Biologically the majority of the races of Asia from the extreme west to the east are closely connected with those of Europe. The distinctions between them are probably no greater than might be said to warrant the term local varieties, although in some cases the differentiation seems to be sufficient to make use of the word 'sub-race' admissible. In Eastern Asia, however, there seems to be very widely spread a group of peoples, conveniently termed Yellow man, who seem to be more remotely connected with the races of Europe. Even here the degree of divergence is to a certain extent a matter of dispute. Finally, in remote parts of Southeastern Asia there are sporadic traces of an entirely different type of man who, all ethnologists are agreed, must be considered as widely differentiated from the other two groups."

Among local studies by far the most important is A. Matsumura's "On the Cephalic Index and Stature of the Japanese and their Local Dif-

ferences" (*Jour. Faculty Sci., Imp. Univ. Tokyo*, sec. 5, 1, pt. 1). This is the first comprehensive survey of Japan. Stature and head form agree with those found through east Siberia, south China, and Indo-China. As might have been expected from their known history and geographic position, Japanese are less variable in head measurements than Koreans and more variable than the Ainu. But among themselves greatest variability is found in southwest Japan, open to contact with the mainland. Matsumura distinguishes nine local types.

Distinctions among local Chinese types are shown in the preliminary survey of P. H. Stevenson (*China Med. Jour.*, 39, no. 19). Confirming the generally accepted view, adults of north China are found to be taller and heavier than central Chinese, who in turn surpass the south Chinese. The children of South China have a shorter growing period and an earlier pubescent acceleration than the more northern groups.

The skeletal remains of the early cultures of Kansu, China, developed by J. G. Andersson, are described by D. Black (*Mém. Geol. Survey China*, ser. A, no. 5, 52) as largely of proto-Chinese type similar to modern north Chinese, with the appearance in the earlier inhabitants of features of divergent and possibly more archaic type.

A study of bodily proportions and their variability by E. V. Eickstadt (*Mitt. Anth. Gesell. in Wien*, 56, 139) is based on Himalayan natives. A contribution *Zur Anthropologie der Buschmänner* of South Africa by the late R. Martin (E. Kaiser, *Die Diamantenwüste Südwestafrikas*, Berlin, 2, 436) gives new light on this pygmy race.

The living people of California have been systematically studied for the first time by E. W. Gifford (*Univ. Calif. Publ. Amer. Arch. Ethn.*, 22, 217). The majority of them are high faced, broad headed and broad nosed, of medium to tall stature (Californian type), the taller peoples centering in the lower Colorado valley. A narrow nosed subtype of this group is found chiefly in the mountainous districts surrounding the Sacramento-San Joaquin basin and in the southern districts. Two quite separate types are set off: both narrow headed and narrow nosed, but one with high face in the south Sierra Nevada and about Los Angeles (Western Mono type), and the other low faced and of short stature centering in the northern Coast range (Yuki type). Crania from these districts conform to the living types, with the suggestion of greater roundheadedness in the latter.

A new society for physical anthropology in Germany, devoted to investigations in that country, was founded under the chairmanship of Professor Aichel. A survey of the physical types in the Netherlands was undertaken by the Royal Academy of Science at Amsterdam.

OLD WORLD PREHISTORY AND ETHNOGRAPHY. A clearer picture of the early stone age in central Asia and China is beginning to appear. T. de Chardin holds that his finds from within the great bend of the Hwang-ho River are similar to the Mousterian and Aurignacian of Europe (Upper Palaeolithic). It is likely that these date from the earliest formation of the loess deposits, corresponding perhaps to the last glaciation. N. C. Nelson's finds from the Gobi desert are also of Mousterian, Aurignacian, and Magdalenian type (*Natural History*, 26, 238, 240).

The date of the first occupation of Ceylon is set by the identification of its rudest implements as the Upper Palaeolithic by F. Sarasin (*L'Anthropologie*, 36, 75). The older Palaeolithic is well represented in India, but it appears that the separation of the island from the mainland was more complete in early times.

The existence of the two new early horizons in Egypt is noted by Flinders Petrie (*Oriens*, Paris, 1, 19). Skeletal remains from the Nile gravels may be pre-Chellean in time but are modern in type. The other remains, flints and pottery, are established as earlier than the two prehistoric civilizations known hitherto as antedating the 1st Dynasty (4200 or 5500 B.C.). These may date from 13,000 to 17,000 years ago. The pottery is thin and hard; some axes are badly polished; the flints resemble the Solutrean. This accords with the prevailing view that developments were earlier in the Egyptian focal area than in Europe.

A much needed summary of *The Upper Palaeolithic Age in Britain* has been prepared by D. A. E. Garrod (Oxford). Remains are scarce; those of Aurignacian date most abundant. Middle Aurignacian did not differ essentially from that of France and Belgium; in upper Aurignacian times there is local distinctiveness, a proto-Solutrean blade arising there to replace the typical Solutrean laurel-leaf blade of the continent. The Magdalenian period is only slightly represented, but appears in the south with important Aurignacian survivals.

As though the problems of the transition from Palaeolithic to Neolithic were not sufficiently confused, finds made near Vichy, France, by Morlet add a further puzzle. These include pottery with Aegean affiliations, clay tablets with inscriptions, and objects in a degraded Magdalenian style. S. Reinach, who dates these to 4000-3000 B.C., thinks this evidences a western origin for writing; G. Elliott Smith suggests a later date and scouts this origin. The find promises to be important (*Nature*, Oct. 23, 1900).

The extraordinary complexity of ethnic elements in the Crimea, derived from the Russian steppes (Scythians, etc.), the Mediterranean (Greeks and their successors), combined with an even more ancient connection with the Caucasus, leads B. A. Kouftine to analyze *La Demeure des Tatars de Crimée* (*Mém. Sec. Ethn. des Amis des Sciences*, Moscow). He finds on the southeast coast flat roofed, square houses having Caucasian analogues, on the steppes of Karassonbazar an earth-covered gable roofed house like those of the Black Sea steppes, in the north mountains a wooden gabled house dating from the Gothic sojourn. Double chambered houses appeared at the same time in the Balkans. Byzantine influences appear in the balconies and Ottoman in the furniture.

"Bear Ceremonialism in the Northern Hemisphere" (*Amer. Anth.*, 28, 1) centres largely in post-mortem rites, conciliatory and indirect address of the bear, belief that it is under the guidance of a spiritual controller, etc. This complex is found in much the same form through Eurasia and North America among the northern hunting peoples but not those of the Arctic littoral. Hence A. I. Hallowell believes that it belongs to an old culture stratum linking all the sub-Arctic peoples.

In a sketch of *The Oroochee Tribe* on the western shore of the Gulf of Tartary, J. A. Lopatin

(*Manchuria Research Soc.*, Harbin, misc. A, 8) makes clear their distinctness from the Udeke, a related but Chinaified tribe. The group is on the verge of extinction. They are nomadic fishermen and hunters, with conical or gabled bark houses, and use dugouts, skis, and dog-sleds. Bride purchase and the levirate prevail; social administration is in the hands of hereditary elders. Shamanism and the bear festival are of the east Siberian type. A convenient summary of the subject, *Der Schamanismus bei den Sibirischen Völkern* was published by G. Nioradze (Stuttgart, 1925).

A new edition of the late W. Crooke's *Religion and Folklore of Northern India* (New York) has been entirely rewritten to include the large amount of material accumulated since this classic appeared in 1896.

The paucity of studies of Africa this year is perhaps compensated by the fullness of P. A. Talbot's *The Peoples of Southern Nigeria* (London.) While a summary, this account is geographically extensive and contains much new material. This will undoubtedly become the basic source for this region, for in addition to extended ethnographic and historical material, a linguistic classification and local comparative studies are provided.

Substantiation for his delineation of culture areas in Africa is given by M. J. Herskovits with reference to east Africa (*Amer. Anth.*, 28, 230). The culture of this area centres in large part in a cattle complex; the cattle as wealth, as the only acceptable dowry, as the proper animals for sacrifice, associated with distinct sex or occupational tabus, etc. These features are found everywhere in the area but enter into varying relations with other elements of the culture.

The puzzling Zimbabwe ruins of Rhodesia, for which Phoenician, Sabran, and other non-African origins have been suggested, are held by P. Schebesta to be sun temples of the Manamatapa. This has hitherto been thought an entirely legendary people, but in this author's opinion they existed. In fact their culture is identical with that of Uganda (*Anthropos*, 21, 484).

A general survey of African mythology by A. Werner (*Mythology of all Races*, Boston,) assumes its independence in the face of marked agreement of the tales with those of Europe and Asia. Special studies of two west African languages, Ibo and Edo, were made by D. Westermann (*Mitteil. des Seminars f. Orient. Sprachen zu Berlin*, 39, 1, 32).

How far negro slaves in America preserved their African culture in the face of new conditions is a question of some theoretical implication. K. G. Lindblom shows that details in the ornament of the Bush-Negroes of Surinam are reproductions of those in west Africa (*Riksmuseets Ethnografiske Afdeling*, Stockholm).

What promises to be one of the most important contributions to primitive art is heralded by the publication of the first volume of K. von den Steinen's *Die Marquesaner und Ihre Kunst* (Berlin) dealing with tattooing designs. It is especially noteworthy for its thoroughness; all the widely dispersed material discovered since the first navigators having been brought together. Tattooing in this extreme Polynesian group differs markedly from the more familiar delicate spirals of the New Zealand Maori in its solid

rectangular areas arranged in bands on trunk and limbs.

A brief ethnographic study of *The Southern New Hebrides* by C. B. Humphreys (Cambridge) deals especially with the islands Tanna and Eromanga. Data on Tanna are additional to those in Speiser's published work, but hitherto nothing of importance has been known of Eromanga. Because of their marginal situation this author interprets their culture in terms of the series of migrations familiar in works on this area. Thus the woolly-haired element in Melanesia made little impression on these islands except Tanna before the appearance there of the Dual-people, which is a fusion of the same people with Austronesian speaking groups. Later the Dual-people were modified by carriers of the Kava culture from Tonga and Samoa to the northeast. An extended account of a Papuan people by W. J. V. Saville deals with the island of Mailu in east New Guinea (*In Unknown New Guinea*, Philadelphia). A distributional study of the elements of Australian totemism by E. Vatter (*Anthropos*, 21, 566) offers some differences from that of G. Rohelm (*Social Anthropology*, New York).

A collection of myths and tales from Paparata made by A. Kleintitschen (*Anthropos Ethn. Bibliothek*, 2) gives in addition a brief account of the customs of this Melanesian folk. A second series of *Folk-tales from Hawaii* has been collected by L. S. Green (*Publ. Folk-Lore Foundation*, 7). From Bougainville Strait, west Solomon Island, a collection of *Mono-Alu Folklore* (London) by G. C. Wheeler contains a number of comparative notes to other Melanesian groups.

NEW WORLD ETHNOGRAPHY. A general view of the course of cultural development carries weight only in proportion to the range of experience of its proponent, necessarily so because of the still inchoate character of culture history. It is of importance then that F. Boas has reaffirmed his belief in the separate histories of the Old World and the New in all their fundamentals, despite recent efforts to prove America the recipient of highly developed arts from across the Pacific (*XII Cong. Int. Amér.*, Göteborg, 21).

If the methods employed by V. C. Allison in fixing "The Antiquity of the Deposits in Jacob's Cavern" (*Anth. Papers Amer. Mus. Nat. Hist.*, 19, pt. 6) are generally accepted, which seems doubtful, this will be the first case in the New World of remains exactly dated in the Pleistocene. The annular rings of a stalagmite from this Missouri cavern containing cultural remains indicates its growth during a cool rainy period. As this corresponds with a particular period in the growth of a Californian sequoia the culture deposit can be dated by the tree's annual rings.

It had long been hoped that Archaeological investigations in the Aleutian Islands might give some clue to the early migrations of the Indians from Asia to America. W. Jochelson's report, delayed since 1909 (*Carnegie Inst. of Washington*, 367), shows such evidence wanting. The deep shell heaps of these islands, like earlier finds on the Pacific coast, contain remains resembling only the historic Aleut culture. Some elaboration is found in the upper layers, but Dall's culture sequence of fifty years ago is definitely negated by this careful work.

The ancient arctic culture reported by T. Mathiassen last year (see *YEAR BOOK* for 1925, p. 41) bids fair to substantiate the long stand-

ing inference that Eskimo culture differentiated in the central arctic littoral, rather than entered America full-fledged from Siberia (*XII Cong. Int. Amér.*, Göteborg, 206). By his excavations at Repulse Bay, Southampton Island, and north Baffin Land, all in the territory of the Central Eskimo, Mathiassen has shown the existence of an ancient sea-mammal hunting culture, with the use of semi-subterranean houses, in place of the recent caribou-hunting Eskimo, whose winter houses are of snow. One of the Repulse Bay sites even held a few pieces of pottery, never before known from this part of the continent. There is some evidence that this "Thule culture" prevailed when the land was 10-12 meters lower than at present, and continued for some time. Mathiassen holds that the recent culture is derived from the Barren Ground, that some of the Thule people went to Greenland, others to south Baffin Land and Labrador, and still others to the arctic archipelago. Indeed, the recent culture of Pt. Barrow, north Alaska, is more closely related than that of the Central Eskimo. In this view a homogeneous Eskimo culture existed from Alaska to Greenland and on account of an expansion from the interior this was superseded in the central regions by a culture represented by the Central Eskimo. K. Birket-Smith agrees in the main (*loc. cit.*, 190) but holds that the proto-Eskimo culture was one of inland lakes and rivers, later adapted to sea life, spread eastward (as in the Thule culture) and was finally influenced on the coast by recent advances from the interior. At Wales in extreme west Alaska, D. Janness found Eskimo ruins of four distinct prehistoric periods. The remains of the second period coincide very closely with the oldest known culture of arctic Canada. Subsequent excavation on Diomedes Island confirmed these finds and revealed a still earlier culture, noteworthy for the use of curvilinear engraving.

While the description of the Central Eskimo as a geographic group is still permissible, K. Birket-Smith finds it is not homogeneous in language. Three groups are recognized, the dialects of the Barren Grounds and Boothia Peninsula; the Labrador-Baffin Land group including west Hudson Bay, and the Greenland dialects (*XII Cong. Int. Amér.*, Göteborg, 197).

The distribution of a ceremony over the first salmon of the year is nearly as widespread in northwest North America as the salmon itself. E. Gunther holds that the basic idea of the rite has been diffused, but locally it conforms to the tribal ceremonial pattern (*Amer. Anth.*, 28, 605).

After a lapse of some years the tribes of the Great Lakes region again come in for attention. The material culture of *The Mascoutins or Prairie Potawatomi Indians* (*Bull. Publ. Mus. Milwaukee*, 6, no. 2) is viewed by A. Skinner as almost wholly typical of the Central Algonkin group with some Plains influences. Ceremonies in house building are more in evidence than among the more north Algonkins. In his *Ethnology of the Ioway Indians* (same series, 5, no. 4) the same author sees a tribe which closely resembles the Central Algonkin in material culture but which betrays its Siouan linguistic affiliation in social organization, ceremonialism, and religion. The viewpoint of the Fox on several phases of their own life is recorded in text by T. Michelson (*40th Ann. Rept. Bur. Amer. Ethnol.*) perhaps the most unique being the autobiography of a Fox woman.

For forty years a large literature has been amassing on the highly involved social and ceremonial organization of the Pueblos of southwest United States, but with the exception of A. L. Kroeber's *Zuni Kin and Clan* there has appeared no guide through the maze of details. This year brings E. C. Parsons' *The Religion of the Pueblo Indians* (*XXI Int. Cong. Amer.*, The Hague, 140). A single system pervades all the pueblos but its elements are variously combined. Ceremonial organization is under a single town chief in the west; one for winter, another for summer in the east. Societies are represented everywhere; the greatest differentiation of their functions has taken place at Zuni. The ceremonial calendar is seasonal, turning on the solstices, with a fixed series of rites. Zuni again is the centre of the mask cult; to the west secret and secular rites are separate, to the east they are confused. "Ceremonial is a kind of ritual kaleidoscope," but there is a clear ritual pattern. The same pantheon exists in all the pueblos, but the emphasis differs widely. Definiteness and order are the prevailing habits in Pueblo religious thought.

*The Pueblo of Jemez* (New Haven) is the first of the eastern Pueblos to be known in any detail because of their hostility to investigation. Unlike the more easterly Pueblos, according to E. C. Parsons, Jemez resembles the western groups in having clans, but exogamy is not strict and other functions limited, such as to suggest a marginal occurrence of the clan idea. Unlike the west where men reside with their wives' families, Jemez men are the householders. In ceremonial there is a balance of western and eastern features. This work is another instance of the value of the genealogy-census method.

A series of papers on the central Californian tribes issued in *Univ. Calif. Publ. Amer. Archaeology and Ethnology* is the largest connected group of contributions appearing this year. E. W. Gifford shows several unexpected matrilineal strains in *Clear Lake Pomo Society* (v. 18, no. 2): inheritance of chieftainship, affiliation with chiefs, and relations within the joint houses. Villages comprise several blood groups. Surprising for an Indian group, monogamy is strict. In his *Pomo Folkways* (v. 19, no. 2) E. M. Loeb has cleared up much of the confusion in central Californian religion by discriminating the Ghost religion from the Kuksu or God-impersonating cult. In *Miwok Cults* (v. 18, no. 3) E. W. Gifford finds an earlier Bird cult overlaid and partly absorbed by the later introduction of Kuksu dances. The Bird cult, hitherto undescribed, centres in a special attitude toward raptorial birds and is southern in its distribution. In addition to defining the *Historic Aboriginal Groups of the Californian Delta Region* (v. 23, no. 2) W. E. Schenck, with E. W. Gifford, shows that the *Archaeology of the Southern San Joaquin Valley* (v. 23, no. 1) affiliates with coastal south California. W. E. Schenck's *The Emeryville Shellmound* (v. 23, no. 3) is essentially a study in method. Its importance for culture history lies in assigning a possible maximum age of 1000 years for the accumulation of the mound. The San Francisco bay mounds, including this, had previously been assigned an age of 2500-3500 years. B. Oettking reports that the *Skeletal Remains from Santa Barbara, California*, for which great antiquity was claimed in 1923, are of the historic Indian type (*Indian Notes and Monographs*, 39).

Mythologies of two areas in North America have appeared; H. K. Haerberlin's *Mythology of Puget Sound* and R. H. Lowie's *Shoshonean Tales* (*Jour. Amer. Folk-Lore*, 37). In an introduction to the former, F. Boas points out that the transformer tales form a group characteristic of Vancouver Island and Puget Sound, mythical figures of the northern coast appear here, and the tribes of the east Sound are deeply influenced by the tales of interior tribes. Lowie's is the first extensive collection from the Great Basin area, from which material has been sadly lacking.

The Maconxoc ruin in Yucatan, investigated by E. S. Thompson and J. Charlot, may be the oldest known centre of Maya civilization. Inscriptions fix its date at 364-413 A.D.

An obviously important region for cultural connections between the American continents is north Colombia south of the Isthmus, but it remains practically unexploited. J. A. Mason finds at Santa Marta a modified Andean culture with Isthmian, Orinocan, and Antillean leanings (*XXI Cong. Int. Amer.*, 159). Under the caption *Pottery of Costa Rica and Nicaragua* (*Contr. Mus. Amer. Indian*, 8), S. K. Lothrop gives a résumé of the culture of the local tribes as well. It is of some interest that this author finds Spinden's Archaic culture, postulated as the basic culture horizon of middle America, is not represented in this region.

A very full account of *The Cayapa Indians of Ecuador* (*Indian Notes and Monographs*, 40) is the fruit of S. A. Barrett's expedition in 1908.

In an analytic article P. Rivet proposes an interpretation of the cultures of northwest and west South America in terms of a series of migrations (*XXI Cong. Int. Amer.*, Göteborg, 1). The most ancient basic elements are from east South America, traces of which are in the coastal shell mounds, overlaid by successive influxes of traits. The second is possibly Malayo-Polynesian (including e.g. the Pan's pipes). The fourth brought the majority of the higher arts from Central America, the cultivation of maize and manioc belonging to this stratum. The remaining four are either local or from the east; e.g. bronze from Tiahuanaco, urn burial from the east, while the Incan civilization developed locally. Strictures on Rivet's position are made by M. Uhle in *Los Elementos Constitutivos de las Civilizaciones Andinas* (*Anales Univer. Central del Ecuador*, 36). He sees rather Mexico and Central America as the principal sources throughout the whole prehistoric period from which influences have flowed. In part the difference turns on a difference in chronology: Rivet, for example, holds that bronze made its appearance only as late as 900 A.D., Uhle as early as 400 or 500 A.D.

A broad scheme for the succession of cultures in Peru has been projected by A. L. Kroeber as the fruit of his recent typological studies of pottery (*Univ. Calif. Publ. Amer. Arch. Ethn.*, 21, no. 5). Four general periods are recognized: pre-Tiahuanaco, Tiahuanaco, pre-Inca, and Inca. Three distinct styles of the first period show developments in the north and south, with central Peru backward. Pre-Inca is also a period of local styles; the other two more general. On the north Peruvian coast, e.g., the Proto-Chimu style of the first period is characteristic of the Trujillo-Chimbote region; Tiahuanacan influence is traceable only as far north as Trujillo, while



Late Chimú ware of the Inca period is generally distributed south to Nazca although most prominent in the extreme north. Other *Culture Stratifications in Peru* (*Amer. Anth.*, 28, 331) yield to the same investigator. At the great pyramid of Aramburú in the valley of Lima he found the Sub-Chancay type of pottery superimposed on the Proto-Lima type. Further south on the coast, in the Cañete district, he found Sub-Nazca antecedent to Late Chincha ware. An association with bodily differences was also discovered; Sub-Nazca skulls show heavy frontal compression, those of Late Chincha light occipital deformation. *An Archaeological Collection from the Rio Loa Valley, Atacama, north Chile* (*Oslo Ethn. Mus.*, 5, no. 1) may show an early culture since Incan influence is absent. On the other hand, according to G. Montell, it is connected with Tiahuanaco, the coast cultures of Chili, and Puna de Jujuy to the east.

Two zones of pottery making are defined by S. Linne's comprehensive study of *The Technique of South American Ceramics* (Göteborg), dividing on the line of the eastern Andes. The eastern pottery is usually woman-manufactured, crude and primitively fired. That of the Andean area is a skilled product, professionally produced by men, highly modeled or shaped in moulds, slipped and well fired. Yet both have their roots in ancient techniques still represented in the eastern area. Both this origin and many developments are traceable to Central America.

*The Secret of the Peruvian Quipus* (Göteborg) E. Nordenskiöld finds to be puzzles for the dead to solve or magical forecasts. It has long been recognized that these knotted strings are numerical records. Their solution seems to rest on the recognition of combinations of the number seven, together with the days of the solar year and the synodical revolutions of Venus, Mercury, Jupiter, and the moon.

In an important preliminary survey of "Culture Diffusion and Culture Areas in Southern South America" (*XII Cong. Int. Amér.*, 406) J. M. Cooper describes the archaic culture of the whole region in the present Fuegian situation, somewhat differentiated east and west of the Cordillera. This was subsequently overlaid by a southerly drift of traits as far as the Araucanians on the west and the Tehuelche, north of the Straits, on the east. Local diffusion occurred in the extreme south, but the most considerable of later influences were those of the historic period bringing the plank boat down the west coast and the horse through Patagonia, each with many associated traits.

An interesting estimate of the aboriginal population of America in pre-Columbian times has been made by K. Sapper (*XXI Int. Congr. Amér.*, the Hague, 95). Of a total of 40-50 millions, there were in North America north of the limits of cultivation  $\frac{1}{2}$  million, to the Mexican boundary 2-3 million, Mexico 12-15, Central America, 5-6, West Indies 3-4, in the tropical Andes 12-15, tropical east South America 2-3, and in temperate South America 1-2 million. The population was massed in the west highlands of both continents. The total to-day is only 15-16 million.

EXPEDITIONS, PERSONALIA. South America was again the field of the Gothenburg Museum expeditions. C. Ninuendajú continued his work on the archaeology of the Amazon and the ethnology of Mura begun in 1924. At the end of the year E.

Nordenskiöld left for Panama, Colombia, and Venezuela to investigate the influences of Central American culture on the Amazon. The formation of a new museum of Chinese culture was under way in Stockholm, based largely on the collections of Andersson and Sirén. The Naturhistoriska Riksmuseet in Stockholm added the important collection of G. Moberg from the Sahara and Lake Tsad, and another from the Lengua of Paraguay. F. Bryk collected near Mt. Elgon, east Africa, on their behalf. The Copenhagen Museum added the Eskimo collections of K. Rasmussen. An expedition to the pygmy tribes north of Carstensz Mt., Dutch New Guinea, was undertaken by M. W. Stirling jointly with the Indisch Comité voor Wetenschappelijke Onderzoekingen te Weltevreden (Amsterdam). The Museum für Völkerkunde at Leipzig had expeditions in Finnish-Lappland. It added a large collection of middle-German puppet-shows. The Staatliches Forschungsinstitut für Völkerkunde at Leipzig had an expedition in further India. F. Termer (Würzburg) began the second half of his year's journey in north Guatemala for the Geographical Society of Hamburg. The Naturhistorisches Museum in Vienna is still financially unable to outfit expeditions but has acquired two good old South Sea collections. Objects from the Somali (northeast Africa), made by Puccioni and Stefanni under the auspices of the Géog. Italienne, were added to the collections of the Soc. Italiana d'Ant. e Ethnol. in Firenze.

Activities of American institutions continued unabated, principally in the local field. Of students at Columbia University, R. Bunsel studied the language of the Zuni and M. Jacobs, Sahaptin dialects; T. Adamson visited the Cowlitz. The Field Museum at Chicago continued to have A. L. Kroeber investigate Peruvian archaeology, R. Linton Madagascar ethnology, and the joint expedition with Oxford University to Mesopotamia. The American Museum of Natural History (New York) continued work in the Cañon de Chelly, New Mexico, under E. H. Morris. N. C. Nelson investigated Neolithic remains in the Yangtze valley, China, for this institution. The Peabody Museum (Cambridge) had C. B. Cosgrove excavating in the Mimbres valley, New Mexico, and W. B. Cline surveying the Sudbury valley, Mass. H. S. Spinden with J. A. Mason investigated the coast ruins of north Yucatan and collected from the Puya. C. Peabody explored a Neolithic site near Breuil-le-sac, north of Paris. C. Coon carried on a reconnaissance in Morocco. M. Luther made anthropometric and sociological studies of Finns. A. M. Tozzer and E. Hooton carried on studies in race mixture with the help of the Bureau of International Research.

The 1926 expeditions of the Bureau of American Ethnology and the U. S. National Museum were with one exception archaeological. J. W. Fewkes excavated Eldon pueblo near Flagstaff, Arizona; G. Fowke near Marksville, La.; H. B. Collins, Jr. in the mounds of Louisiana and Mississippi; J. P. Harrington in S. California, and J. W. Gridley explored fossil beds near Vero, Florida. For further associations of human remains with Pleistocene fauna, see YEAR BOOK for 1925, p. 41. Archaeological reconnaissances were made on the Columbia River by H. W. Krieger, and for traces of Asiatic-American connections in Alaska by A. Hrdlička. Ethnologic researches were made among several Algonkin tribes by T. Michelson. S. G. Morley continued



explorations in Yucatan for the Carnegie Inst. of Washington. The activities of the Museum of the American Indian (New York) also covered a wide field. The archaeology of Salvador occupied S. K. Lothrop, of Pueblo Grande, Nevada, M. R. Harrington, with C. O. Turbyfill excavating in North Carolina, and F. H. Saville in New York. For the same institution E. H. Davis and G. W. Avery visited Sonora and Sinaloa, Mexico, and Messrs. Fawcett and Gow-Smith made ethnological collections in Brazil. P. Radin studied the Ojibwa for the Univ. of Michigan Museum. E. S. Thompson and J. Charlot studied ruins in Yucatan for the Carnegie Institute.

Despite its meagre funds, the University of California had eight expeditions, principally in the local field. E. W. Gifford visited the Pomo and Cocopa, A. H. Gayton the Yokuts, R. H. Lowie the Washo, F. B. Kniffen the Achomawi, and L. Spier the Klamath. E. M. Loeb investigated the ethnology of the Mentawi Is., Dutch East Indies. J. Steward conducted excavations on the Columbia River. For the Univ. of Washington R. Olson continued to investigate the Quinault.

The Victoria Memorial Museum (Ottawa) conducted researches of Tsimshian social organization through C. M. Barbeau, of the archaeology of Diomed Island and Wales in Bering Strait through D. Jenness, in Ontario through W. J. Wintemberg.

The Dirección de Arqueología de México, which assumed the activities of the former Dirección de Antropología, had E. J. Palacios investigating ruins in Chiapas and furthered archaeological work at Tenayuca, Chichen-Itza and near Teotihuacán. For the Brazilian Museu Nacional (Rio de Janeiro) H. A. Torres studied the anthropometry and ethnology of the Sambaquis of Iguape, São Paulo, and Roquette-Pinto the anthropometry of the Brazilian population.

H. Hamilton visited the Kaiangaia carvings, New Zealand, for the Dominion Museum at Wellington. T. R. Heroa of the same place studied anthropometry and material culture in the Cook Is., especially Aitutaki.

The new foundations for anthropology in Australia got under way this year with the establishment of the continent's first department of anthropology at the University of Sydney under A. R. Radcliffe-Brown. Funds provided by the commonwealth, the several states, and the Rockefeller Foundation made an extensive programme of research possible. W. L. Warner was appointed to assist in this. The University of Adelaide started a museum and formed a society to study the natives. An expedition will soon leave for central Australia.

Changes occurred in the housing of several museums. The ethnological museum of the Koloniaal Instituut in Amsterdam was opened on October 9th; the Museum für Völkerkunde in München opened in new quarters on July 10th. The museum of the Società Italiana d'Antropologia e Ethnologia in Florence was installing its Asiatic and American collections in a new home in the Palazzo Nonfinito. The Museum of the American Indian in New York began construction of a new unit in March.

The XXII International Congress of Americanists met at Rome at the end of September. German and French scholars were noticeably absent. The Bernhard-Hagen medals were presented to Professor Sarasen and Dr. Bushan on the oc-

casión of the celebration of the twenty-fifth anniversary of the Frankfort Society for Anthropology. E. Nordenskiöld and K. v. d. Steinen were named honorary members of the Société des Américanistes de Paris in February, 1926.

Changes in personnel include the appointment of E. Fischer as director of the Institute for Anthropology being organized at Dahlen, Germany. The directorship of the Museum für Völkerkunde (Leipzig) developed on F. Krause on the death of K. Weule. R. Heine-Geldern was appointed at the University of Vienna to lecture on South Asia, E. Schneeweis at the University of Belgrade for comparative ethnology, and M. C. Burkitt in the recently established Faculty of Archaeology and Ethnology at Cambridge. The Museum für Völkerkunde (Munich) added M. Kusters as assistant for Africa. The staffs of two American museums showed signs of growth for the first time in years. The American Museum of Natural History (New York) added H. Shapiro for physical anthropology and M. Mead for Oceania. The Field Museum (Chicago) added W. D. Strong for North America, E. Thompson for middle America, W. D. Hambly for Africa, and H. Field for physical anthropology. D. Jenness was appointed chief of the Division of Anthropology, Victoria Memorial Museum (Ottawa) and D. S. Davidson instructor at the University of Pennsylvania.

**NECROLOGY.** Karl Weule, professor at the University of Leipzig and director of the Museum für Völkerkunde in Leipzig, died April 19th. Sir William Ridgeway, Disney professor of archaeology at Cambridge University, and William T. Brigham, for many years director of the Bishop Museum, Honolulu, died early in the year.

**ANTIGUA.** See LEEWARD ISLANDS.

**ANTIOCH COLLEGE.** A non-sectarian, co-educational college at Yellow Springs, O.; founded by Horace Mann in 1853. The number of students enrolled for the fall term of 1926 was 692, of whom 512 were men and 180 women. The faculty had 62 members. The productive funds of the institution amounted to \$138,310, and the income for the year was \$299,118. The library contained approximately 20,000 volumes. Based on the belief that academic training alone does not fit a young person for life, the college is so organized that the students divide their time between school and practical work as part of the economic community. President, Arthur E. Morgan, D.Sc.

**ANTI-SALOON LEAGUE OF AMERICA.**

A federation of churches and temperance organizations in the United States, united against the beverage liquor traffic. It was established in 1895 by a coalition of the Anti-Saloon Leagues of four States and the District of Columbia. At the end of 1926 it embraced 29 States or Territorial Leagues and had affiliations with 40 other national temperance organizations as well as with the World League Against Alcoholism (q.v.). During the year the work of the League was carried on by over 1500 representatives. This work included a widespread educational campaign on the evils of the use of alcohol and the duty of observance of the law carried on through the press, pamphlets, the pulpit, and the lecture platform. The League claimed that the public sentiment thus aroused in favor of prohibition registered itself in the election of 26 United States senators with dry records or dry posi-

tions, out of the 35 elected; the re-election of 296 dry members of the House of Representatives; and the election of 25 drys among the 39 new members of the House. The legislative work of the year included supporting: the Reorganization bill, providing a bureau of prohibition and a bureau of customs in the Treasury Department, passed by the House and at the end of the year on the Senate calendar with a favorable report; the favorable reports by committees on the Goff bill to amend and strengthen the National Prohibition Act, on the Senate calendar at the end of the year; the bill providing for Civil Service for prohibition agents, passed by the House during the year, and also put on the Senate calendar; the Alien Deportation bill, passed by the House and at the end of the year, before the Senate Immigration Committee; the Stalker Bill to increase penalties for law violations; and a Senate bill to permit employment of retired army, navy, or marine officers in the prohibition service. Both of the latter bills were pending at the end of the year.

As evidence of the unaltered attitude of the courts toward enforcement of the 18th Amendment, the League cited the decisions of the Supreme Court upholding the constitutionality of the limitations of the National Prohibition Act on the prescription of liquor for medicinal purposes, and the upholding of the discretionary powers of the Internal Revenue Commissioner in the granting of permits authorizing the use of alcohol for non-beverage purposes.

The League issued statistics based on official reports, demonstrating that the consumption of intoxicants had dropped to a small fraction of its former total. It also quoted some census figures showing a decrease in the death rate from liquor during 1926. The *American Issue*, published at Westerville, O., is the official organ of the League, both a national edition and many state editions being published. Its monthly circulation was about one million copies. The National Legislative Headquarters are at 30 Bliss Building, Washington, D. C., under the direction of Wayne B. Wheeler, general counsel and legislative superintendent. The other officers were: president, Bishop Thomas Nicholson, Detroit, Mich.; secretary, S. E. Nicholson, 70 Fifth Ave., New York; treasurer, Foster Copeland, Columbus, Ohio; general superintendent, F. Scott McBride, Westerville, Ohio; general manager of publishing interests, Ernest H. Cherrington, Westerville, Ohio.

See PROHIBITION.

**ANTI-SEMITISM.** See JEWS.

**ANTI-TOXIN.** See DIPHTHERIA.

**APICULTURE.** See ENTOMOLOGY, ECONOMIC.

**APPENDICITIS.** Mass statistics of the results of removal of the appendix show in the aggregate a small death rate. In Warnhuis's figures which appear in the *Journal of the American Medical Association* for February 13 there are 11,400 cases supplied by 35 hospitals with a total operative mortality of less than 3 per cent. The number of patients operated on in the acute stage was 5736 and here the mortality was a little higher—4.23 per cent. But if the reports of the individual hospitals are studied, we find the widest disparity despite the fact that the surgeons are of a like ability and follow presumably much the same technic and rules for performing operations. In seven hospitals the mortality was

under 2 per cent and in one large hospital with 1035 cases it was 1.6 per cent, while the record was held by a hospital with a mortality of .004 in a material of 327 cases. At the other extreme we note a hospital with a mortality of 34 per cent while in three others it was more than 10 per cent. In one hospital with but 65 patients treated 24 failed to survive the operation. These discrepancies can be explained only by delay in operating, which itself is due to a variety of factors, and to the development of unforeseen and unavoidable complications like postoperative pneumonia. The patient is often to blame because he is of the type which will not give up work until he must go on the table.

**APPLES.** See HORTICULTURE.

**AQUEDUCTS.** The continued concentration of people in large cities together with striking increase in their number, and the improvement of the standards of living, led in 1926, as in the years immediately preceding, to the discussion and construction of projects for increasing or providing new water supply systems. With the growth of cities there had also been a development of the suburbs and increased density of population in the surrounding country so that in many instances new projects involved going further distances for sources of water supply and longer and larger aqueducts to transport it to the point of distribution. New York City was seriously discussing the matter of additional water, and other cities also were face to face with the necessary extension of their supplies. Some of the more important work of the year in the field of discussion and consideration is referred to in the accompanying paragraphs.

**NEW YORK CITY WATER SUPPLY.** In connection with a plan for an additional water supply of 434,000,000 gallons daily for New York City, derived from streams east of the Hudson River, prepared by the New York Board of Water Supply and submitted to the Board of Estimate and Apportionment in the autumn of 1926, an interesting system of aqueducts was involved. Previously (Dec. 30, 1924) the Board of Water Supply had recommended the construction of a new delivery tunnel from the Kensico Reservoir to New York City at an estimated cost of \$67,249,000. This delivery tunnel, which was essential in any case and would figure in the new project, would be one of the elements of the new system. The scheme as outlined provided for a system of reservoirs, the largest of which would be on Kinderhook Creek, with a storage capacity of 44,000,000,000 gallons, with a drainage area of 150 square miles, and a daily yield of 123,000,000 gallons. These reservoirs would supply the proposed aqueduct, which, at Kinderhook Creek, would have a capacity of 150,000,000 gallons daily, while before it reached Kensico Reservoir this would be increased to about 600,000,000 gallons daily. Between Kensico Reservoir and the Hillview equalizing or distributing reservoir there was proposed an aqueduct with a capacity of 170,000,000 gallons daily, to provide for transporting the maximum draft during periods of peak consumption.

The delivery tunnel through New York City, previously mentioned, and recommended in 1924, would be a deep pressure tunnel with a diameter of 17½ feet and a length of 20.2 miles, extending from the Hillview Reservoir in Yonkers to South Brooklyn. This new tunnel would carry a portion of the Catskill supply and would obviate the

risk that is involved in using the single delivery tunnel.

Should the Board of Estimate and Apportionment adopt the plan, the following stages of construction were recommended: 1. The new delivery tunnel. 2. The aqueduct from Hillview to Kensico and from Kensico to the Croton Shed, together with the new reservoir on the east bank of the Croton River, the aqueduct from the Croton Watershed to the Silvernails Reservoir, and the reservoir on the Fishkill and Wappinger and Roeliff Jansen watersheds. 3. The aqueduct from Silvernails to Kinderhook Creek and the reservoirs on the Kinderhook, Taghkanic, Stony, Kline, and Claverack watersheds. The aqueduct from East Nassau Reservoir at the bottom of Kinderhook Watershed to Hillview Reservoir in Yonkers would total in length  $132\frac{1}{4}$  miles, its different construction being as follows: tunnel on hydraulic gradient  $53\frac{1}{4}$  miles, tunnel below hydraulic gradient  $13\frac{1}{4}$  miles, cut and cover aqueduct  $57\frac{1}{4}$  miles, reinforced concrete aqueducts  $4\frac{1}{4}$  miles, and steel pipe siphons  $2\frac{1}{4}$  miles. The total cost of the project, exclusive of the new delivery tunnel, which, as stated, was estimated at \$67,249,000, was placed at \$347,934,000, of which about \$183,000,000 would be for new aqueducts, not including the cost of gate houses and control works, and the balance for dam and reservoir construction.

The additional facilities thus provided would give an extra supply of 434,000,000 gallons per day to the Greater City of New York. This project was discussed in the *Engineering News-Record*, Oct. 21, 1926, p. 670.

**SAN FRANCISCO WATER SUPPLY.** The first pipe line to cross the southern end of San Francisco Bay for the Hetch Hetchy Water Supply project was completed and put into use during the year. This bay crossing division of the Hetch Hetchy project was built and completed seven years before it could be employed to convey Hetch Hetchy water, to supplement the pipe lines of the Spring Valley Water Company which brought in the water from East Bay sources and were already overloaded. This bay division included about 21 miles of line from a point near Irvington, on the east side of the bay, to Crystal Springs Reservoir of the Spring Valley Water Company, on the San Francisco peninsula, some 15 miles south of the city limits. This division involved the Pulgas tunnel, 8675 feet in length, a submarine pipe in the bay, a length of 2750 feet, and across Newark Slough, 400 feet in length, as well as an extended mileage of 60-inch pipe, with a capacity of 45 million gallons per day, buried in trench or laid in trestle.

In this construction the most notable feature was the crossing of the bay, where there was 3870 feet of steel bridge on the west side which terminates at an anchor pier near the ship channel, from which a 42-inch flexible pipe line was laid across the channel bottom to the east shore. This type of construction was adopted in preference to a submerged pipe line all the way on the score of ultimate economy, as the bridge which carries the pipe was designed for two 76-inch lines eventually, in place of the 60-inch line which had been installed. The approximate cost of the thrust pier and bridge complete, with the 60-inch pipe, was about \$400 per foot of bridge, or approximately equal to the cost of two lines of 42-inch flexible submarine line. Furthermore, a similar amount, at least, would

be required for each additional line of submarine pipe, whereas, once the bridge was built, the second pipe could be provided at a cost of only about \$30 per foot. The pier was designed for four 42-inch pipes, risers interconnected at the top and the bottom leading out into the bay, but only one of the four had been built and put in use in 1926. This pier also withstood an unbalanced overturning minimum of the hydrostatic thrust from two 76-inch pipe lines under a pressure of 170 pounds per square inch, and also the thrust from the submerged lines, or any combination of one or both pipe sections, either empty or full.

**EAST BAY, CALIFORNIA, WATER SUPPLY PROJECT.** During the year active progress was made on the Mokelumne Project to bring a new water supply to Oakland, Calif., and other municipalities in the East Bay Municipal Utilities District. This involved considerable construction of pipe lines and tunnels, and the first element in the work involved 42 miles of conduit from the San Joaquin River Crossing to the district. For the first 43 miles west of the river the conduit took the form of 65-inch steel pipe, with the exception of a short portion of 63-inch pipe. Then, westerly from the east portion of Walnut Creek tunnel a larger section was to be used in tunnels and conduits, the tunnel itself being half a mile long. After a 3.5 mile conduit, the Lafayette tunnel, three miles long, was planned, and finally the Claremont,  $3\frac{1}{4}$  miles in length. A notable feature of this construction was laying the 65-inch steel pipe line. It was intended at first to use butt-welded circumferential joints made in the trench, employing the oxy-acetylene process and electric welding. In the first section about 26,000 feet of the line were connected in this way, but before this amount had been finished it was apparent that satisfactory welding in the field could only be done with great difficulty, and accordingly, a change was made to riveted joints. Westward of the San Joaquin River a considerable amount of trench had been excavated, pipe had been laid and welded, and in the spring a 3600 foot length of pipe in the trench had satisfactorily passed a hydrostatic test of 197 pounds per square inch. The Walnut Creek tunnel, which had been driven and lined with concrete, was practically completed at the end of the year, and in the Lafayette tunnel active progress had been made.

During the construction of the Claremont tunnel of the East Bay Municipal Utility District project, a cofferdam designed to hold back the water of San Pablo Creek was carried away by the flood of storm water and the flood entered the tunnel through an opening made for drainage purposes. This sudden floating resulted in the drowning of ten workmen.

**LOS ANGELES AQUEDUCT.** Serious damage was occasioned to the Los Angeles Aqueduct on November 27, when, after a rainfall of  $6\frac{1}{2}$  inches in 60 hours, slides choked the open canal section above the Haiwee Reservoir, about 192 miles north of Los Angeles. The concrete lined canal was undermined by the overflow and a ditch was cut through the embankment. The damage involved considerable reconstruction with new fill, the rebuilding of the concrete sea walls and supporting embankments. The water supply of the city was not endangered, as the reservoirs were full at the time.

**ALBANY, N. Y.** Plans for a new gravity water

supply system for Albany, New York, were adopted on September 14 by the Board of Water Supply authorized at the session of the Legislature early in the year. This would involve an ultimate capacity of 70,000,000 gallons per day by the year 2000, though the plan was to develop the project by stages. Water would be stored in the Hannacrois and Catskill Creek Drainage Basins through a 59-foot dam built to a basin at Alcove, with a net available capacity of 4,400,000,000 gallons, 730 acres being flooded. Below this reservoir a conduit with a capacity of 42,000,000 gallons daily, about 40 miles in length, would lead to a new distributing reservoir in Albany. The next development would be the construction of a dam 74 feet high at Indian Fields, above the reservoir just mentioned, to flood 850 acres and form an 8,000,000,000 gallon reservoir with an aeration basin below, from which water could be sent into the Alcove reservoir or directly, into the conduit referred to. Both of these dams would be built on rock, with spillway overflow sections at the deeper part, and would be flanked with earth banks having core-walls. The Hannacrois Creek Basin, with its tributary drainage area of 32.55 square miles above the Alcove dam, would be increased by that of Basic Creek, a tributary of Catskill Creek, the water of which would be diverted into the Hannacrois Creek Basin by a 2200 foot tunnel. This would add 16.37 square miles to the drainage area, making a total of nearly 50 square miles in the system as then constructed. The next stage in the development would be the construction of two 55-foot, masonry dams on Catskill Creek, one at a point above Preston Hollow and the other at Franklinton, further above. These two basins would divert an extra 25,000,000 gallons per day from the Catskill Creek drainage, and the water from the first reservoir would be passed through a 48-inch conduit with a head of a tributary of Hannacrois Creek discharging into the Indian Fields reservoir. The upper dam, making a reservoir of 300,000,000 gallons capacity, would regulate the flow from 12.7 square miles of gathering area. In connection with the second stage another conduit, with a capacity of 42,000,000 gallons daily, would be built to Albany, and the facilities thus provided were estimated to serve the city until 1980.

Finally, as the last stage of the project, which would bring the total yield to 70,000,000 gallons daily and would provide for the water needs of Albany until about the year 2000, the Preston Hollow dam, on Catskill Creek, would be raised and water would be diverted from Ten Mile Creek. The project, as adopted, was one of four possible sources of water supply which were named by Nicholas S. Hill, Consulting Engineer, in a report submitted before the creation of the Special Water Board.

VANCOUVER, B. C. In connection with the crossing of Burrard Inlet at the second narrows by the 18-inch cast iron pipe of the third water supply conduit from Seymour Creek for the city of Vancouver, B. C., an interesting method of procedure was adopted. The pipe was put together on a chute and then pulled or pushed across by cables and pulleys operated by donkey engines located in the rear end of the pipe and chute. This third conduit extends from an intake on Seymour Creek to Little Mountain Reservoir near the centre of the Greater

Vancouver Water District. It is of  $\frac{5}{8}$  to  $\frac{3}{4}$ -inch steel and has a diameter of 36 inches and a length of about 13 miles. Where it crosses the stream an 18-inch submerged main of cast iron was employed, with a carrying capacity of 9 U. S. million gallons per day. This gap at the inlet consists of 1200 feet of completely submerged crossing and 1200 feet of tidal flat at the north shore. Previously twelve earlier lines had been laid across the inlet, but the method employed with the last pipe was found more practical.

SÃO PAULO, BRAZIL. The construction of a new water supply system for the city of Sao Paulo, Brazil, was commenced in April, 1926. It had its source in the headwaters of the Rio Claro, 42 miles from the city and about 180 feet above the distribution reservoir. The new aqueduct involved a 50-mile supply line, with 2.5 miles in tunnel, 27.5 miles of concrete aqueduct on the flow line, and 20 miles of riveted iron pipe, some of which was in siphon. There was also an impounding dam, making a lake at the upper end of the supply line, and at the lower end a reservoir. The new aqueduct was to be a gravity line and was designed by the New Works Commission of the São Paulo Water Supply. Of the 20 miles of riveted iron pipe, five miles under 57 pounds per square inch pressure were 8.2 feet in diameter and  $\frac{1}{2}$  inch thick, while 15 miles under 114 pounds pressure were 5.9 feet in diameter and  $\frac{3}{8}$  inch in thickness. The plates, varying in length from 19 to 26 feet, were to be rolled in England, where the trimming, planing, and scarfing were also to be done, and then they were to be shipped flat to Santos, Brazil, whence they were to be carried by rail to a fabricating plant where they were to be rolled and riveted, in lengths of 20 to 25 feet. In the sections in tunnel and under pressure a special form of lining was being used constructed of  $\frac{3}{8}$ -inch iron plates hydraulically pressed so as to form a series of internally flanged segments which, when bolted together, would make a continuous internal lining 8.5 feet in diameter.

JERUSALEM. One of the minor projects of the year which was put in operation in July, 1926 was a provisional water supply system for the city of Jerusalem, carrying 200,000 gallons daily from Ain Farah Springs, a distance of seven miles with a rise of 2000 feet. See WATER-WORKS and PURIFICATION.

ARABIA. A peninsula in southwestern Asia to the south of Syria, Mesopotamia or Irak and the Persian Gulf. The area is estimated at from 1,000,000 to 1,200,000 square miles, the higher figure including the Syrian desert and the Sinaitic peninsula. Estimates of the population range from 4,000,000 to 7,500,000. The divisions of the country in late years have been defined as follows:

(1) HEDJAZ. Hejaz or the kingdom of the Hedjaz was an outgrowth of the World War and after a very precarious existence was compelled to submit to the domination of the Sultan of Nejd at the very end of 1925. See preceding YEAR BOOKS. During its rather brief career as an independent state its frontiers were always in a state of flux, never being definitely defined excepting on the west. The estimated area of the country is about 150,000 square miles and more or less unsatisfactory estimates of its population place it at 800,000 to 900,000. The popula-

tion is largely nomadic, although in recent years they have been known to settle in villages where it has been possible to cultivate the soil. The principal cities are: Mecca, with a population of from 50,000 to 60,000 (this is the holy city of Islam and attracts about 100,000 pilgrims, annually. These pilgrims represent the chief source of income for the government); Medina, also a holy city and the seat of Mohammed's tomb, with a population of 15,000; and Jedda, the seaport for Mecca, with about 20,000 inhabitants.

Agriculture in the Hedjaz is not generally practicable, on account of the excessive heat, but in the oases there are large crops, the chief one of which is dates, and in the plateau region wheat, corn, barley, millet, lentils, coffee, and tobacco are raised. The country is famous for its horses many of which are raised and sold abroad. The chief exports are hides, wool, and gum; the chief imports, foodstuffs and building materials. As noted at the beginning of this article, the Kingdom of the Hedjaz ceased to exist as an independent state in December, 1925. On Jan. 26, 1926, Ibn Saud, the Sultan of Nejd, was proclaimed king in Mecca under the style King of Hejaz and Sultan of Nejd and its dependencies.

(2) **SULTANATE OF NEJD.** Undoubtedly the most important unit in the Arabian peninsula. This state occupies the highland of central Arabia between the Persian Gulf on the east and the Hedjaz on the west. It is ruled by the Saud dynasty, which represents the old Wahabite empire, founded in 1745. In 1926 the population was estimated at 3,000,000. The chief products of Nejd are dates, wheat, barley, fruits, hides, wool, horses, camels, donkeys and sheep. Although the export trade is insignificant it is capable of great development, a rapid increase being noted in the trade of horses to Bombay and camels to Egypt. The chief imports into Nejd are piece goods, tea, coffee, sugar, and rice. Reigning Sultan at the beginning of 1926, Abdel-Aziz ibn Saud.

(3) **JEBEL SHAMMAR.** An emirate north of Nejd and since 1921 an integral part of the Sultanate of Nejd, by which it was captured and annexed. Population, estimated at 250,000. Capital, Hail.

(4) **ASIR.** The principality of Asir lies on the western coast between the Hedjaz and Yemen. It is largely under the control of the latter imamate. Capital, Sabiyah. The estimated population is about 1,000,000. The ruler at the beginning of 1926 was Ali ibn Mohammed el-Ildrisi. His rule over the highlands of his country was very shadowy.

(5) **IMAMATE OF YEMEN.** The area of this state is about 75,000 square miles and the population is variously estimated from two to three millions. The capital is Sanaa, with a population of about 25,000. Cereals and coffee are raised on a large scale. Hides form one of the chief articles of export. Ruling Imam at the beginning of 1926, Yahya Mohammed Hamid ed-Din.

(6) **SULTANATE OF KOWEIT.** This territory, subsidized by the British, is on the northwestern coast of the Persian Gulf, and has an estimated population of 50,000. Sultan at the beginning of 1926, Ahmed ibn Jabir al Subah.

In addition to the above there are comprised within the limits of Arabia the British pro-

tectionate of Aden (q.v.) and the Sultanate of Oman (q.v.); also the emirate of Kerak or Transjordan (q.v.).

**HISTORY.** On Dec. 19, 1925, King Ali of the Hedjaz was compelled to abdicate his throne and surrender completely to Sultan Ibn Saud, who had been struggling for Moslem supremacy ever since the close of the World War. On Jan. 11, 1926, Ibn Saud had himself proclaimed King of the Hedjaz at Mecca. The new king was a most extraordinary and interesting character. He had always been on the strongest and friendliest terms with the British and had received a subsidy from them during the war and after it, amounting, according to reports, to \$400,000 annually. King Ibn Saud was hailed in many quarters as the new Caliph, or representative of Allah, on earth. Mustapha Kemal made this religious position the plaything of the other Islamic leaders when he declared that the Caliph in Turkey was no more.

When King Hussein and his son Ali were ousted from the Hedjaz they were compelled to give up all claims to the Caliphate and naturally, as their successor, Ibn Saud, was the strongest claimant for the religious leadership of Islam he desired to become caliph. Almost immediately upon ascending the throne Ibn Saud began a religious revival which compelled all his followers to follow absolutely the teachings of the Prophet, noontime prayers on Friday, and the five daily rites of ablution, genuflection, and prayers. He also made the way easy for the thousands of pilgrims who came to the sacred shrines at Mecca and Medina, in great contrast to Hussein and Ali who collected tremendous fees from the pilgrims for the trip from Jiddah to Mecca for their own personal fortunes. Ibn Saud charged a rate which barely covered the expenses of the trip by camel or automobile. It was fairly certain that Ibn Saud would be elected Caliph at the conference to be held at Khilafat later in the year, chiefly because he was an independent ruler and because he was in possession of the two holy cities of Mecca and Medina. These two facts strengthened his claims as against those of King Fuad of Egypt or the Amir of Afghanistan.

A very important Moslem conference was held at Mecca during June and July. The meeting was called at the instance of Ibn Saud and every Moslem country was invited to send representatives. In all about seventeen or eighteen delegations took part in the deliberations which finally worked out a skeleton of Moslem unity. The Shah of Persia refused to be represented on the grounds that Ibn Saud and his followers had violated the sanctity of the holy places of Islam and were continuing to do so. In his opening speech Saud contrasted the conditions that existed at the holy places under his régime and that of his predecessors. He stated that not for centuries had the security and physical well-being of the pilgrims been given such care and attention as under his leadership.

With regard to the Hedjaz he suggested that its independence and security be guaranteed by the entire Moslem world, and that a "closed door" policy should be maintained with respect to it, that is, no foreign concessions should be granted, all work of any description should be done by Moslems, and Mecca and Medina, particularly, should be preserved in accordance with

the strict laws of the old Wahabis—the fundamentalists of Islam.

After the congress was organized it took up the questions of hygiene and sanitation in connection with the annual pilgrimage, and made far reaching proposals and resolutions to make provisions for the cleaning up of the remains of animals used in religious rites, the providing of latrines, and a complete service of hospitals, nurses, and doctors. On the economic side a proposal was made to link up Medina, Mecca, Jiddah, and Yambo by railways, which were to be constructed and operated entirely by Moslem capital. These railways would obviate the necessity of motor and camel transportation in reaching the holy shrines.

At several of the meetings of the congress the agenda called for the adoption of a constitution to regulate future meetings, which were planned annually in Mecca, or some other Moslem city if conditions in Mecca were in any way upset. The most interesting provision of the constitution was that which provided for an executive committee to be made up of a railway engineer from Turkey, an architect from Egypt, a finance specialist from India, an educator from Syria and Palestine, a hygienist from Nejd, and a legal specialist from the Hedjaz. For some unknown reason the question of the election of the Caliph was kept in the background and no formal action was taken upon it throughout the entire conference.

In the latter part of August, King Ibn Saud published a constitution for the Hedjaz, which stated in its preamble that "The kingdom of the Hedjaz within its known frontiers is one and indivisible. It is a monarchy consultative, Moslem, and enjoying full sovereignty, both internal and external. Its capital is Mecca and its official language Arabic." The rest of the constitution provided for the absolute rule of Ibn Saud in accordance with the Koran and the laws and customs of the prophet. A viceroy was to be appointed to represent the king, who was to rule in his stead with the aid of councillors and the heads of public departments. A weekly conference was to be held in Mecca for administrative purposes and similar councils were to be arranged for Jiddah and Medina. In the rest of the country local councils were to be established.

Early in September a treaty of friendship was signed between Italy and Yemen, by which Italy recognized the "full and absolute independence of the country of the Iman of Yemen and of its sovereigns." Further provisions of the treaty promised Italian aid in commercial and industrial enterprises, and seemed to spell predominant Italian influence in the country.

#### ARACHNIDS. See ZOÖLOGY.

**ARBITRATION, INTERNATIONAL.** President Coolidge in October designated Charles Evans Hughes, formerly Secretary of State, as one of the three United States members of the International Court of Arbitration at the Hague (established in 1899), to fill the vacancy caused by the death of George Gray in August, 1925. The other American delegates to the Hague Court are Elihu Root and John Bassett Moore. Mr. Hughes was to serve for six years.

Since the publication of the volume of *The Hague Reports* (1916) by the Carnegie Endowment for International Peace, the following

cases have been brought before the Court of Arbitration:—

*Spain, France, Great Britain—Portugal:* Seizure of Religious Property. Date of Compromis, July 31, 1913. Date of Award, Sept. 2, 4, 1920. Arbitrators: Elihu Root, Savornin Lohman, Lardy.

*France—Peru:* French claims against Peru. Compromis, Feb. 2, 1914. Award, Oct. 11, 1921. Arbitrators: Ostertag, Sarrut, Elguera.

*United States of America—Norway:* Norwegian claims against United States of America. Compromis, June 30, 1921. Award, Oct. 13, 1922. Arbitrators: Vallotton, Anderson, Vogt.

*United States of America—Netherlands:* Sovereignty of the Isle of Palmas. Compromis, Jan. 23, 1925. Arbitrator, Huber, Pending.

*Commission of Inquiry: Germany—Netherlands:* Loss of Dutch steamer *Tubantia*. Date of Convention of Inquiry, March 30, 1921. Date of Report, Feb. 27, 1922. Commissioners, Hoffmann, Surie, Ravn, Unger, Gayer.

In December (1925), Spain and Portugal announced that they would submit for decision to the Arbitration Court the differences of opinion between them regarding the question of the Guadiana River.

**ARBITRATION TREATIES.** On March 5 an Austro-Czechoslovak arbitration treaty was signed. All possible disputes between the two countries were henceforth to be settled by obligatory arbitration. Judicial questions will be submitted to a permanent court of arbitration consisting of one Austrian, one Czech, and a neutral president. Appeal to the Hague Court is allowed. To this latter court all other disputes, not of a judicial nature, are to be directly submitted and ultimate appeal is then permitted to the Permanent Court of International Justice in case the settlement of the Hague arbitration should not be mutually satisfactory. Once arbitration has begun neither party may take steps prejudicing a settlement. The treaty is valid for ten years. It is then renewed automatically for another decade, unless denounced a year previous to expiration. It is understood that commercial and political relations between Austria and Czechoslovakia were also discussed during the visit paid by Dr. Benes, and that on these a basis of loyal co-operation was reached. "We have taken another big step towards the consolidation of Central Europe," the Czech Foreign Minister remarked.

In an address before the Council of the League of Nations on September 10 when he welcomed Germany to the League, M. Briand, the French Minister of Foreign Affairs, said:

Peace for Germany and for France! That means that we have done with the long series of terrible and bloody conflicts which have stained the pages of history; done with the black veils of mourning for sufferings that can never be appeased; done with war; done with brutal and sanguinary methods of settling our disputes. True, differences between us still exist, but henceforth it will be for the judge to declare the law. Just as individual citizens take their difficulties to be settled by a magistrate, so shall we bring ours to be settled by pacific procedure. Away with rifles, machine guns, cannon! Clear the way for conciliation, arbitration, peace!

A treaty between Sweden, Greece and Bulgaria was signed at Stockholm in the Spring by which Sweden places at the disposal of the Balkan States two Swedish officers to act as supervisors of the Greco-Bulgarian frontier. Greece while expressing her willingness to pay at once half of the indemnity of about £50,000

to Bulgaria, asked for a fortnight's delay for the payment of the remainder. Bulgaria agreed to this request.

**TACNA-ARICA ARBITRATION.** This arbitration (see YEAR BOOK for 1925) was at a standstill at the end of 1926. Some diplomatic conversations were carried on with a view to a possible settlement, but at the close of the year there was no definite prospect of a successful outcome. In January, Major General William Lassiter, U. S. A., succeeded General Pershing as neutral head of the Tacna-Arica Plebiscitary Commission. In December, 1925, the Commission adopted a resolution that indicated that Chile had obstructed the Commission's work. Chile objected to this and to the dates set for registration and voting. An appeal was made to President Coolidge, arbitrator, who decided that Chile's objections were not valid. Registration was postponed, however, until March 27. During the registration period of 55 days, about 5800 voters, largely Chilean, registered. Peruvian protests against intimidation by Chile caused the indefinite postponement of the plebiscite while the two countries tried to settle their difficulties through mediation in Washington. On June 14 the Plebiscitary Commission voted that a plebiscite could not be carried out. Chile was very indignant over this decision; Peru was very enthusiastic.

General Lassiter declared that the Commission was not empowered to hold "a futile plebiscite as a mere matter of form" and that the hope of obtaining "an effective expression of the will of the people has become a delusion." The Commission's power in controlling the territory was limited to requests that the Chilean government do or refrain from doing certain acts. These suggestions were ignored. He considered that there had been a "conclusive ascertainment of the fact that suitable conditions for a plebiscite, if they have existed at any time within recent years, did not exist when the Commission began its labors in August, 1925, that they do not now exist and that there is no prospect of their being brought into existence."

In a letter addressed by the Bolivian Government to President Coolidge asking for a representation in the Tacna-Arica conferences, President Siles expected to obtain, through the United States' intervention an outlet for Bolivia to the sea. President Coolidge replied to President Siles saying that in his capacity as arbitrator his duties obliged him to be concerned solely with the Governments of Chile and Peru in their dispute about the two provinces, and "owing to the lack of consent of Chile and Peru he considers he cannot invite another Government to take part in the negotiations." Secretary Kellogg submitted to Chile and Peru the following suggestions:

The territory of Tacna and Arica shall be constituted a neutralized State, either independent or under the protectorate of South American States as may be agreed, or the provinces of Tacna and Arica shall be transferred (upon an apportionment of equitable compensation and appropriate economic arrangements, to be agreed upon) to a South American State not a party to these negotiations.

Bolivia was obviously the State referred to in the second proposal, but neither Chile nor Peru evidenced the slightest willingness to sell its rights.

The main elements of the "fatally bad plebisci-

tary conditions" were the failure of the Chilean government to give Peruvian sympathizers equal opportunities with Chileans for peaceful voting, and the deterring effect on Peruvian sympathizers of "improper acts and occurrences in Tacna-Arica." General Lassiter charged that outrages had been committed against Peruvians including forcible deportations; "departures induced by violence or threats," discriminatory military conscription; failure to give Peruvians who have been driven out of the territory an opportunity to return to vote; "systematic, widespread and effective terrorization of Peruvians"; coercion of Peruvians into promising to vote for Chile, to remain neutral, or to register fraudulently; denial to Peruvians of "due and equal protection of the laws" in Tacna-Arica; subjection of Peruvians to unlawful restrictions of their plebiscitary rights; hindrance of Peruvian officials in the performance of their duties; "general and deliberate misrepresentation and suppression of the real facts by the local Chilean authorities and by the local Chilean press." General Lassiter further charged that these conditions had been brought about not only with the knowledge but with the connivance in many cases of the Chilean authorities, "as evidenced by failure to restrain the criminal activities of certain so-called patriotic or political organizations whose operations have been accompanied by unmistakable evidence of official support and approval."

Senator Edwards, the Chilean member of the Commission, declared that the Commission had no right to abandon the plebiscite and that General Lassiter's reasons for abandoning the plebiscite were not valid, since conditions had improved since August, 1925. On June 18, the Chilean Ambassador informed Secretary Kellogg that giving up arrangements for the plebiscite automatically ended the efforts to reach an amicable adjustment through mediation by the United States. On the same day General Alessandri, former president of the Chilean Republic, declared in an interview in the *New York Times* that the United States had increased the hatred between Chile and Peru and lost the friendship of Chile.

At the end of the year it was considered possible President Coolidge under the protocol of arbitration might take the question up on his own initiative, but it was uncertain whether both parties would accept the United States as mediator.

Failure to settle the Tacna-Arica questions, according to the Foreign Policy Association, "has been viewed as a blow at American prestige by many South Americans who feel that it will tend to increase the unpopularity of the Monroe Doctrine." While few responsible people had gone so far as to say that it would lead to settlement of future disputes through European or League of Nations mediation, many expressed doubt as to whether the United States will again be asked to lend her assistance.

Late in the year (November 30) Secretary of State Kellogg made another effort at settlement based on the purchase of the two provinces by Bolivia. The Bolivian Government was reported to have accepted the proposal in full and the Chilean Government "in principle." Peru, on December 6, asked Washington what part self-determination of the inhabitants of the prov-



inces would play in the suggested cession, giving no further hint of her answer. The proposal was summarized by the Foreign Policy Association as follows:

1. All previous attempts at settlement having failed, Chile and Peru shall "cede in perpetuity all right, title and interest" in Tacna and Arica, the cession to be made subject to appropriate guarantees for the protection of personal and property rights of all the inhabitants of the provinces, regardless of nationality.

2. Bolivia to give adequate compensation for the cession, including public works, railways and improvements in the territory.

3. As an international memorial to the valor of both Chile and Peru, a fitting monument is to be erected on the Morro headland of Arica, which is to be internationalized.

4. Treaties of friendship, commerce, navigation, etc., to be arranged between Chile and Peru.

5. The provinces to be perpetually demilitarized.

If Secretary Kellogg's recommendations should be carried out, Bolivia would achieve her long-desired outlet to the sea and one of the grave friction points in the western hemisphere will be ameliorated. On the other hand, as the Association points out, it is to be noted that the bulk of Bolivian ore—her chief export—is carried by a railway running through the heart of her mining district direct to the free port of Antofagasta in Chile and the preferential freight rates make this an economical route. Furthermore, the provinces of Tacna and Arica are of no particular economic value and the interest of both Chile and Peru in their possession is largely one of "national honor." Secretary Kellogg pointed out in his letter that acceptance of his plan would safeguard national honor, which has been involved, and would constitute a "high minded settlement."

**MIXED CLAIMS COMMISSION: UNITED STATES AND GERMANY.** This Commission was established in pursuance of the Agreement of August 10, 1922, for the purpose of adjudicating all claims of American nationals against Germany under the provisions of the Treaty of Berlin. There were 12,416 claims filed, in which the amount demanded aggregated \$1,479,064,313.92. On Dec. 1, 1926, there remained to be disposed of only 824 claims out of the 12,416 which had been filed. The awards entered up to Dec. 7, 1926, amounted to \$142,219,347.63, and, with interest in accordance with the awards to Jan. 1, 1927, to the sum of \$199,635,609.20. The amount demanded in the claims remaining to be adjudicated aggregates the sum of approximately \$75,000,000.

**TRI-PARTITE CLAIMS COMMISSION: UNITED STATES, AUSTRIA, AND HUNGARY.** This Commission was established in pursuance of the Agreement between the United States and Austria and Hungary signed at Washington Nov. 26, 1924, and ratified by the United States, Aug. 4, 1925; by Austria on Aug. 25, 1925; and by Hungary on Nov. 5, 1925. Its function was to determine the amounts to be paid by Austria and Hungary in satisfaction of their obligations under the treaties concluded with the United States.

The Agreement of November provided that all claims should be passed upon by a sole commissioner, and should be presented within one year from the date of the first session. The first

meeting was held on Jan. 25, 1926. At the request of Austria and Hungary, the Commissioner was selected by the President of the United States, who, on Dec. 22, 1925, appointed Judge Edwin B. Parker, of Houston, Texas. Judge Parker was Umpire of the Mixed Claims Commission, United States and Germany, Robert W. Bonyngue, of New York, was American Agent (who also represented the United States in the same capacity before the American-German Commission mentioned above) and Dr. Ernest Prosinagg of Vienna and Dr. Alexis de Boer of Budapest were the Austrian and Hungarian agents respectively. The rules of practice and procedure became effective May 14, 1926. They were designed to carry out the principle of the Agreement that the disposition of the claims shall be effected speedily and with the least possible expenditure of time and money consistent with proper presentation and adjudication of the claims. It was believed that the Commission could be wound up within six months from the expiration of the time limit for filing claims. See LEAGUE OF NATIONS.

#### ARBITRATION AND CONCILIATION.

See LABOR ARBITRATION.

**ARCHÆOLOGY.** At Cyrene the Italian Department for Colonial Affairs conducted during the year excavations which resulted in the discovery of a remarkable Græco-Roman reproduction of the head of the Olympian Zeus of Phidias. It was found in the courtyard of the so-called "Great Temple." In the same place was discovered an inscription stating that the temple was built for the Olympian Zeus.

**ASIA MINOR.** In the eastern part of Asia Minor, on the site of ancient Kanesh, Professor Hrozny, of Czechoslovakia, found pottery closely related to the Minoan. On the same site he discovered what was apparently a deposit of archives. It comprised copies of letters dispatched and letters which had been received. Besides these there were treaties, legal documents, and commercial "papers" of the great Cappadocian merchants who carried on trade between Asia Minor, Mesopotamia and Assyria. In all there were about 1000 fragments. They date around 2100 B.C. The discovery indicated that Kanesh was the leader of the other Cappadocian towns, which submitted to Assyria before the coming of the Hittites. The excavations also brought to light massive walls of brick and stone, which showed traces of burning. The building was some Hittite castle which had been destroyed by the twelfth century invaders who overthrew the Hittite Kingdom.

**EGYPT.** In Egypt several interesting things should be reported. Work was continued in preparing the articles from the famous Tutankhamen tomb. Several gilded statuettes together with caskets were recovered. At Abydos work was done on the Osireion, located behind the temple of Seti I. Evidence was now at hand to show that the building was a cenotaph of that king. The structure is a vast subterranean affair which has a hall, the central part of which is constructed of huge blocks of gray and red granite. The outer walls of the building are of sandstone and quartzite. The entrance, the eastern and the western galleries are made of a beautiful white limestone. Taken as a whole the building consists of a large, rectangular hall with long galleries at each end. Originally the western gallery had no connection with the out-



side world. An interesting feature of the main hall is that the central part forms a kind of island surrounded by a channel which originally must have been filled with water. Doubtless on this water sailed the boat of Osiris. The building is of the same date as the neighboring temple, for the retaining wall of the latter is a continuation of the outer wall of the back room of the Osireion. In this room were found two fine sculptures which represent the goddess Nut. They rank among the finest early Egyptian work.

**GIZEH.** At Gizeh the Harvard-Boston Expedition, working in the pyramid area found the tomb of Queen Hetep-Heres, of the third dynasty. She was the wife of Sneferu and the mother of Cheops. In her tomb were found a well-preserved basin and pitcher, three golden cups, twenty-five alabaster vessels as well as much pottery. The most interesting find is a gold-covered jewel case belonging to the queen. In it were twenty silver anklets, ten for each leg, so graduated as to allow for the increase in the size of the calf. Each one of them is decorated with four conventionalized dragon-flies inlaid with malachite, lapis lazuli and carnelian and separated one from the other by carnelian disks. The tomb also afforded many gold hieroglyphs which at one time were inlaid in ebony to decorate the back of a chair.

During the year restoration work was done on the Great Sphinx. Cleared away for the first time in 1700 years it was possible to see the repair work done by Thothmes IV, in the 18th dynasty.

**SAKKARA.** At Sakkara the Department of Antiquities discovered a large number of columns which had been erected in the third dynasty. So far as can be made out they formed the entrance to the wall which surrounded the pyramids. Also on this site was found a beautiful colonnade erected by the first known architect, Im-hotep. On the floor of the room at the northern end of the colonnade was found a letter in which an officer in charge of soldiers stationed at Tura, near Cairo, complains to the Vizier's office that his men had waited six days for an issue of clothing. On a wall near by some tourist has recorded that he had taken his holiday especially to come to see the wonders of Sakkara. He wrote this in the eleventh dynasty.

Also at Sakkara the explorers found a mummied horse, the first yet found, dating about 1200 B.C. It has been suggested that possibly this is the horse of Rameses II, which saved him from an Hittite ambush.

**THEBES.** The Liverpool Institute of Archaeology were engaged at Thebes where they have discovered a mummy pit at the bottom of which were three chambers. The original owner had been removed in the eighteenth dynasty and in the chamber where he had been were put thirty to forty coffins of priestesses of Amon-Ra. So hastily had they been put there that some of the mummies had been tipped out.

**KISH.** At Kish, in Mesopotamia, the Oxford-Field Museum Expedition uncovered a large structure built of rectangular bricks. This showed that the plano-convex type of brick was brought in at a later date by an invading race. The great temple complex of Harsangkalemo was cleared. It was discovered that the original building had been reconstructed by Nebuchad-

nezzar and Nabonidus. The temple shows the recessed colonnade decoration found in western Kish. Sixteen miles to the northeast other digging was done on the site of Jemdet Nasr. Work revealed that the earliest Mesopotamian civilization is to be found as far north as this. The digging brought to light many complete painted vases as well as a lot of tablets with the earliest pictographic script. The appearance of theriomorphic vases hints at some connection with Anatolia, Susa and early Egypt (1st dyn.). The writing on the tablets referred to suggest the date 3500 or earlier.

**UR.** On the ancient site of Ur the Anglo-American expedition has laid bare a great number of small houses. Some sixty odd tablets have been recovered with hymns to the moon-god dating from the time of Bur-Sin, king of Larsa (21st Cent). These were the most important finds of the expedition. On the same site the excavators also found a diorite statue of the goddess Bau, the patroness of the poulterers. It is the first archaic female statue to be discovered in Mesopotamia. In addition to this there turned up a bas-relief sculptured in two bands. In one a king pours a libation to a god; in the other a priest pours out a libation before the door of a temple.

Before the temple of Nin-Gal, the moon-goddess, was found a brick base on which stood a black diorite stele recording the victories of Hammurabi. In the hollow of king Bur-Sin were found three large stones bearing the inscription "Bur-Sin, King of Ur, King of Sumer, and Akkad, has built this temple to his lady Nin-Gal." During the digging there turned up a finely riveted copper coffin which contained the body of a woman with work-basket, jewelry, etc. It is the first metal coffin found in Mesopotamia. It dates about 700 B.C.

**BEISAN.** The University of Pennsylvania began work at Beisan (ancient Bethshan) in Palestine in August. The expedition has been able to identify two temples of the Philistines mentioned in I Chronicles, x, 10. It will be remembered that in one was put the armor of Saul, in the other his head. Four other Canaanite temples were also found. Two belonged to the time of Rameses II, one to that of Seti I and one to the Tell el Amarna period. The southern Ramesid temple was dedicated to the war-god Resheph, the northern one to the war-goddess Antit-Ashtoreth. Both buildings were in use down to the time King David expelled the Philistines. From the evidence at hand it seems that the Philistines seized Bethshan at the death of Rameses III (1167). There had been Egyptian mercenaries there before that drawn from the Aegean-Anatolian area.

At Beisan, quite a number of objects found have a bearing on the relationship of Palestine and the Mediterranean. In the lowest temple found in the Tell, just below the floor-level were discovered cartouches of Amenophis III. This is about the time the Hittites entered northern Syria. Near these appeared objects from southern Greece, Cyprus or Crete, dating in the Hellenistic III period (375-1200). At that time a Mycenaean kingdom flourished in the island of Cyprus. At the same level appeared two interesting finds—a basalt model of a Minoan chair, and a limestone model of a Minoan table.

In September, also at Beisan, a large Hellenistic temple was excavated. It was found that its

foundations cut through an Egyptian fort of the 19th dynasty. Among the things found were the monument of Ihesi-Nekht, showing the goddess Anath in a purely Egyptian dress, and an 18th dynasty stela showing a goddess with horns, like Hathor.

At Jerash was discovered a classic head of the Zeus or Asklepios model which had been made over into a head of Christ. It was found in a cloister of a Christian church which dates late in the second century.

**PALESTINE.** In Jerusalem a series of rock-cut tombs have been cleared. They are in the scarp on which the inner, eastern wall is built. The tombs date probably no earlier than 100 B.C. Also at Jerusalem the diggers found a wall nearly fifteen feet thick built of large, well-cut stones. It is part of the third, and northern, wall built or restored by Herod Agrippa.

At Wady el Amud, in a cave near the Sea of Galilee, has been found the skull of a man of the Neanderthal race. At El Zuttiyeh, in another cave have been discovered remains of the Cromagnon period.

**GREECE.** The most notable work of the year in Greece was that of the Swedish expedition which had been active in the Peloponnesus. At Asine, in Argolis, excavations in the lower city brought to light successive periods of Greek civilization. In the lower city great portions of the pre-Mycenaean town were bared. In that part of the site house foundations of the middle Helladic period (2000-1600) came to light. Fully 300 graves varying in type and age were discovered under, between, and over the walls of the houses. The finds range from pre-Mycenaean through the Hellenistic possibly down to early Christian times. It was hoped that the skulls recovered would throw light on the question whether a new race came into Greece at the beginning of the middle Helladic age. The most spectacular of the discoveries was that of a royal tomb comparable in the richness of the contents with the notable tomb of Tutankhamen. It dates about 1500 B.C. A mass of material, dating about 3000 B.C. also turned up. Some impression of the amount of the material found is given by the fact that 300 cases have been filled with pottery, marbles, bronzes, jewelry, etc. The site is revealed to have been older even than Argos.

The Swedish excavations this year were conducted chiefly on the citadel, the upper and the lower towns on Barbutia hill and in the necropolis. On the hill the tombs were cut in the solid rock.

In a beehive tomb near the town of Dendra, also in Argolis, the Swedes made their most notable find. The tomb, about 8 miles in diameter proved to have been untouched. After three weeks' work the excavators found on the floor bones of at least three skeletons and some late Mycenaean vase fragments together with gold objects, stone beads, and glass. The real finds came however when the three pit graves in the floor of the tomb were cleared. In the first appeared a skeleton with a gold necklace, bits of a gold girdle and about 40 spiral ornaments possibly also parts of the girdle. The burial was that of a little princess. In the second shaft was found an ostrich egg mounted in silver and a gold cup larger than that found long ago at Vaphio. The outside of this cup is inlaid with bronze and niello on a silver ground. This burial was also that of a woman. In the same shaft came to light

a steatite lamp, a beautiful necklace of 61 gold beads and a collection of weapons—bronze knives, spearheads and a sword. The third shaft contained the skeleton of a man completely covered with treasure. On his chest was a large gold cup 22 centimeters in height and 18 centimeters in diameter. The decoration took the form of octopi. In the cup were rings; at the feet of the dead was a sword.

**AMERICAN SCHOOL OF CLASSICAL STUDIES.** So far as the history of the American School of Classical Studies in Athens is concerned the most notable event of the year was the dedication in April of the Gennadeion, the building which houses the remarkable library given to the school by Dr. Gennadios of London. A notable task in prospect is the excavation of the ancient agora of the city which was to be undertaken by the American School in the near future.

In clearing a large area on the site of the former royal stables in Athens the Greeks came upon an ancient cemetery outside the old Themistoclean walls. Among the finds are to be mentioned a fine Corinthian capital, a beautiful statue of a draped woman over six feet in height, a headless female statue and funerary marble urns.

**CORINTH.** At Corinth the Americans again were active during the year. The orchestra of the theatre had been cleared and new sections of a polychrome wall were uncovered. The paintings show a contest of gladiators with a bull. In front of the stage much sculpture was recovered. Large marble slabs from the frieze illustrate contests between Greeks and Amazons. Bits of a Gigantomachia also came to light. The excavations resulted in proving that there were several theatres of different periods. The latest proved to be of the fourth century, the earliest of the first years of the Christian era. Traces of a Greek theatre were also uncovered. In the theatre was found a copy of the Doryphoros of Polyclitus.

**CYME.** At Cyme the Czecho-slovakian mission found the house of a potter, a fourth century Ionic temple, reservoirs for water and a Roman forum.

**NEMEA.** At Nemea the American School once more resumed its excavation of the site. The campaign had three purposes in view; the exploration of the area to the east of the temple, the examination of the Greek structure under the Byzantine church, and the location of the stadium for the Nemean games. East of the temple foundations were found which ran north and south, parallel to the front of the temple. It is thought that they are the foundations of an altar. If so it is the first of its kind in the Peloponnesus. The building under the church proved to be of great size—about 20 by 85 meters. The building, which is late, is possibly a gymnasium. The work on the site of the stadium was mostly at the north end where was found a deposit of votive offerings on the ridge bounding the valley on the east. The deposit had been carefully buried in a small pit in the rock. In it were several hundred small vases, cups, figurines of the archaic type, etc. such as have previously turned up at the Argive Heraeum, Tiryns and elsewhere. In the list were some specimens of geometric ware. But mostly the find was confined to the Proto-Corinthian and Corinthian style, its date therefore being about 700 B.C.

In the autumn of 1926 Acting Director Blegen put ninety men to work clearing the foundations of the altar found in the campaign of last season. The stadium has also been worked upon. Some excavation has as well been done in the neighboring village of Herakleia.

ITALY. One of the most interesting discoveries in Italy this year is that of Prof. Rhys Carpenter who has succeeded in showing that the seated boxer in the National Museum in Rome bears the signature of Appolonios, the Son of Nestor, a sculptor already known from his signature on the Torso of the Belvedere. The signature of the Boxer is in small letters on one of the cestuses bound on his hands.

At Agrigentum the temple of Asklepios was laid bare. It proves to be a reduced copy of the temple of Zeus. On the same site has been found an interesting bearded head of Hercules in the style of Myron.

FRANCE. In France, at St. Bertrand de Comminges, were unearthed a number of marble statues dating apparently from the earliest days of Roman occupation. One is a Victory, another that of a beautiful woman in the best Greek style, and fragments of a colossal seated Jupiter together with parts of an eagle. The evidence points to a possible capital on the site which had been destroyed in the early fifth century. Near Bordeaux have come to light a series of remarkable subterranean galleries dating possibly from the first century B.C. Many of the halls or galleries communicate by long corridors. The place may have been a fort. At Les Esyes caves dating back 30,000 years have been unearthed with carvings preserved on the walls. At Rocqueliere in the Alpes Maritimes the Duke of Vendome has found several tombs of the Roman period containing beautiful jewels, vases, etc., while at Sonnac the Abbe Hermet has found many graves and well-preserved skeletons. While laying foundations for a statue of victory the workmen uncovered seven sarcophagi with skeletons and jewelry of the eleventh century.

ENGLAND. At Bainbridge in Wensleydale, England, excavations uncovered the remains of Roman barracks which had been used as late as the fourth century. There were found evidences of a clay rampart which originally must have been topped with palisades. Among the finds should be recorded cells, roofs, bronze brooches, a surgical instrument, pieces of scale armor, counters for playing draughts, a knife, spearhead, a silver denarius of the time of Severus, and a millstone of lava.

LONDON. While sinking foundations at the corner of Lombard and Gracechurch Streets in London workmen came upon parts of the forum of Roman London. The parts discovered consist of three oblong blocks of Roman brickwork each five feet long by two and one half wide. Behind them appeared a Roman wall, the face of which has been laid bare. Possibly this is the southwest angle of the forum. The piers which have been found may belong to an arcade which enclosed the marketplace.

WALES. At Cærhun in Wales, which lies five miles to the south of Conway, excavations have been conducted on the site of the Roman fort of Kanovium, which was one of the chain of forts which extended from Chester to Carnarvon. The east gate has been found. The fort was founded soon after the Roman occupation of

Wales in the first century and continued to be used till the time of Hadrian.

GERMANY. While digging for the work on the athletic park at Cologne in Germany ruins of a Roman settlement were laid bare. Its date is in the early decades of the first century and constitutes as yet the most important find of its kind in Germany. Many baths, mostly well-preserved, were brought to light. The whole series of buildings formed a square 800 feet on a side. One cellar still contained a stove together with a complete set of cooking implements as well as utensils for the banquet hall. The place appears to have been a manor house.

RUSSIA. In South Russia on the site of Olbia the Russian scholars have found evidence going back to the sixth millenium B.C. Near Odessa traces of occupation have been discovered which point to habitation there as early as five to six thousand years B.C. The remains of earth dwellings suggest an agricultural society. See PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

**ARCHITECTS.** AMERICAN INSTITUTE OF. The national organization of the American architectural profession, founded in 1857. It is governed by officers and a board of directors elected by and responsible to the delegates from the 56 chapters, assembled at the annual convention. The objects of the Institute are to organize and unite in fellowship the architects of the United States, to combine their efforts so as to promote the æsthetic, scientific, and practical efficiency of the profession, and to make the profession of ever-increasing service to society. Among its activities are the following: devising methods for improving and extending architectural education, not only in the universities, but in the lower schools; securing proper laws for the registration of architects in the various states; developing a service for architects which will give them for their actual problems data relative to building materials and methods obtainable from no other source; maintaining a public information service to tell the prospective builder the financial as well as the æsthetic service of the architect. The Institute maintains active standing and special committees on various branches of its work and allied fields. The directors and executive committee hold quarterly meetings in various parts of the country and the regional directors keep in active touch with the work of the local chapters throughout the year.

The 1926 annual convention was held in Washington, D. C., May 5-7, 1926, at which the Institute resolved: to use its influence to promote the physical restoration of the Church of Saint Sophia at Constantinople; to undertake a new publicity programme for direct paid-for advertising for the architectural profession; to issue bonds to raise money for the improvement of the historical Octagon House and its grounds; to withdraw its support of the Architects' Small House Service Bureau; to issue a handbook presenting to the country at large the needs of Washington, i.e., the necessity of an effort to further beautify it by appropriate city planning; to offer its active coöperation toward securing a home in which foreign students of the Arts coming to this country might be welcomed.

Gifts received during the year were: \$1736 from the Allied Architects of Los Angeles for

the furnishing of the Octagon House; \$10,000 from the president, D. Everett Waid, for the Waid Education Fund, and \$6,000 for the Octagon House Property Fund from the same source; the architectural library of the late Richard Morris Hunt, given by his son; the architectural library of the late Donn Barber, given by his widow; and the architectural library of the late Arnold Brunner, given by his widow.

In May, 1926, there were 2631 members, 258 fellows, 72 honorary members, 33 honorary corresponding members, 415 associate members, and 128 junior members. Honorary members elected during the year were George F. Booth, Detroit; George F. Lindsay, St. Paul; George F. Steedman, St. Louis; Major Raymond A. Wheeler, Washington; Dr. Irene Sargent, Syracuse; Thomas E. Donnelly, Chicago; Frederic B. Pratt, Brooklyn. The Institute medals were awarded as follows: the Fine Arts Medal to Dr. Leopold Stokowski, in recognition of his services in interpretation and advancement of music in America; the Craftsmanship Medal, for pre-eminence in some special field of craftsmanship, to V. F. Von Lossberg; the Gold Medal, the highest honor of the Institute, to Howard Van Doren Shaw. The property and funds of the Institute amounted to \$235,359.98, and the income for 1925-26 was \$98,243.69. Officers for 1926-27 were: president, Milton B. Medary, Jr.; first vice-president, William Emerson; second vice-president, C. Herrick Hammond; secretary, Frank C. Baldwin; treasurer, Edwin Bergstrom. The Institute issues: *The Journal of the American Institute of Architects*, a monthly; the standard contract forms in widespread use throughout the country; the *Handbook on Architectural Practice*; a *Structural Service Book*; and a series of documents on the ethics of the profession. Its headquarters are located in the Octagon House, Washington, D. C.

**ARCHITECTURAL LEAGUE.** See ART EXHIBITIONS.

**ARCHITECTURE.** The outstanding feature of the year 1926 in American Architecture was the continuation of the process of style liberation already begun. The greatest business building of the year—The Barclay-Vesey Telephone Building, by McKenzie, Voorhees & Gmelin—the finest Memorial—the Kansas City War Memorial, by H. Van Buren Magonigle, recently dedicated, and the most interesting piece of ecclesiastical work—Trinity Evangelical Lutheran Church, Fort Wayne, Indiana, by the Bertram Goodhue Associates, all are distinctively modern in style. Like the greater part of American Modernist work, this does not mean that in them tradition has no part; they do not seem the work of a rebel artist-illiterate; but it does mean that more and more training in past styles is being considered simply as background to the artist's mind, and not as his mode of expression.

The buildings of the Sesqui-Centennial Exposition at Philadelphia showed the same trend. This exposition was disappointing; a magnificent opportunity lost through haste and divided counsel. It had been discussed for years, and two very interesting tentative preliminary plans presented, one by Paul Cret, and one by the local chapter of the American Institute of Architects, which contemplated a board of architects like those which made the World's Fair in 1893 at Chicago, and the Panama Pacific Exposition of 1915 in San Francisco, magnificent monuments

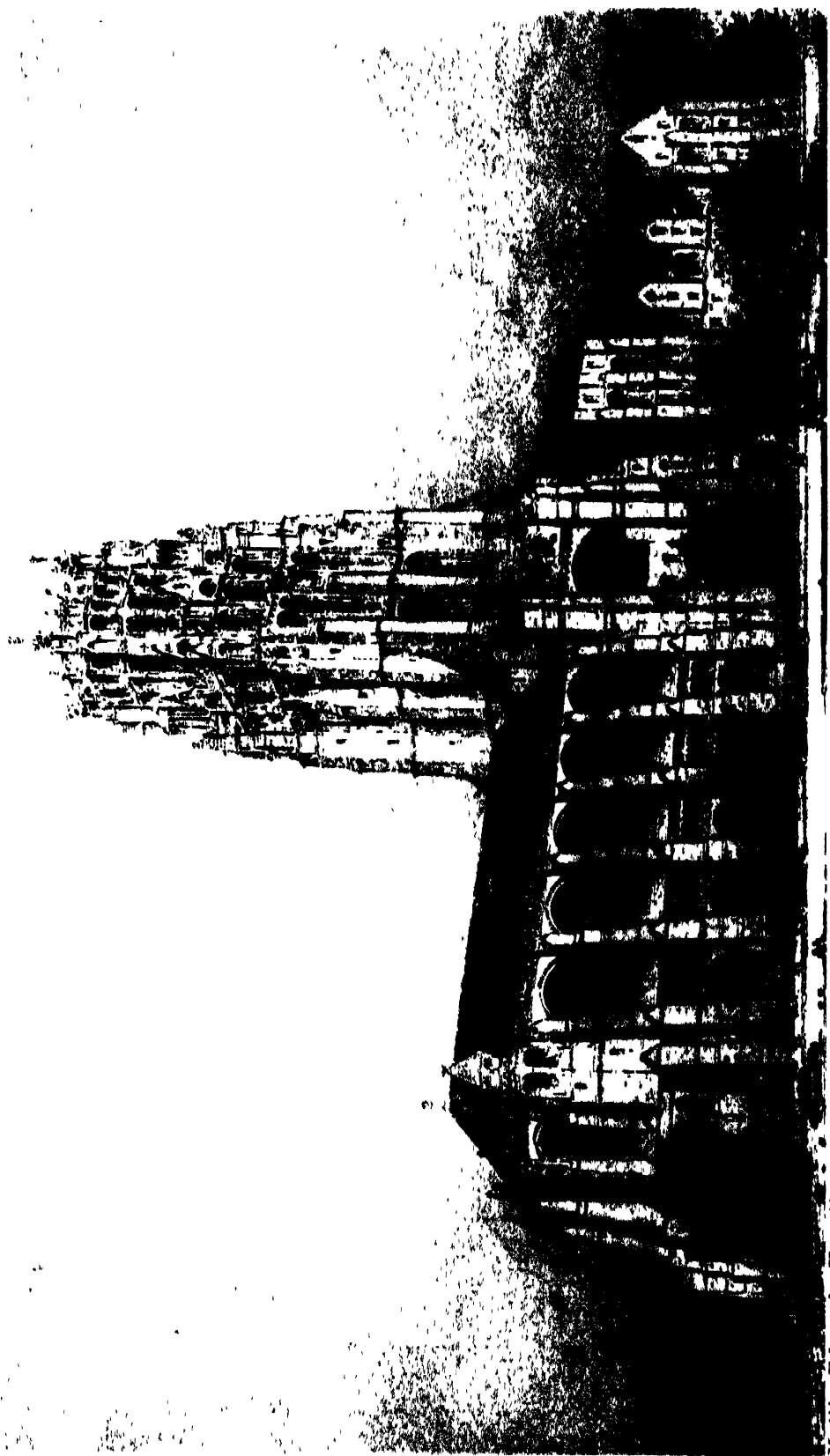
of contemporary architecture. Both plans were unfortunately abandoned; the location was changed from the Fairmount Parkway to a flat, uninteresting expanse far south of the city, by the Navy Yard, and the general plan was prepared by John Molitor, the city architect, to whom great credit should be given for achieving even what was achieved with the limited time and money at his disposal. Mr. Molitor also designed the two great main exhibition buildings whose facades, interesting in color, but ineffective in detail and lacking central interest, flanked the main axis.

The outstanding features at the Philadelphia Exposition were Ralph Bencker's Pennsylvania Building, whose rotunda, decorated by George Harding, was one of the most effective, frankly modernistic, interiors in America, stunning in color and lighting; and the great Stadium, by Simon and Simon. The best in the foreign group was the Persian Building, whose minarets and polychromed dome reflecting themselves in the lagoon, formed perhaps the high spot of charm in the entire group. It was designed by Carl Ziegler. Noteworthy also, among the miscellaneous buildings that went to make up the somewhat incoherent group was the careful and correct reproduction of an old Philadelphia street, "High Street," done by R. B. Okie in association with Bissel, Sinkler, and Wagner. This reproduction, evidently carefully studied, *con amore*, not only has picturesque charm itself, but made real again to our machine world the beauty, the simple directness, the rightness of the eighteenth century architecture of the country.

The Trinity Evangelical Lutheran Church, Fort Wayne, Indiana, by the Bertram Goodhue Associates is the most arresting piece of work of its kind completed during the year. The exterior is in that type of modernized Gothic which was one of the late Mr. Goodhue's many valuable contributions to American architectural traditions; the interior is even more interesting in its completely free treatment of forms and materials. Its pointed arches perhaps allow it to be called Gothic; but its chancel vaulted with a pointed half dome is a new note, and the interior detail is fresh and vital. The whole has that sure, direct emotional beauty that only honesty can produce.

Interesting also is the monolithic concrete Episcopal church of St. John, at Los Angeles, by Pierpont and Walter S. Davis, the Mariemont Community Church, Mariemont, Ohio, by Louis E. Jallade, in a simple English style with an effective high slate spire over a squat square tower, and the Beverly Hills Community Presbyterian Church, by Carleton Monroe Winslow, with very free adaptations of Spanish colonial motives; more conservative design appears in the scholarly First Presbyterian Church, of Tacoma, Washington, by Cram and Ferguson, a skillful expression in brick and stone of Romanesque ideas.

Great interest was aroused towards the end of the year by the publication of the designs for the Riverside Baptist Church, New York City, by Henry C. Pelton and Allen and Collens, associated architects. This, the largest by far of recent city churches, is the successor to the Park Avenue Baptist Church. The design shown is in a monumental Gothic based upon French precedent, especially upon the Cathedral of



Mattie Edwards Hewitt

THE RIVERSIDE CHURCH

SOUTHEAST CORNER OF RIVERSIDE DRIVE AND 122ND STREET, NEW YORK CITY  
FROM THE DRAWINGS OF HENRY C. PELTON AND ALLEN & COLLENS, ASSOCIATED ARCHITECTS



Chartres, and is dominated by a huge and rather complex tower, over 300 feet high.

The year's trend in educational buildings was mainly along the traditional lines. Cram and Ferguson designed for Wellesley College at Wellesley, Mass., a Student-Alumnæ Building that is an interesting modernization of the English Jacobean style; its brick and stone forms have something of the naïveté but little of the crudity of the original style; it is typically a modern eclectic building. The schools at Mariemont, Ohio, by Feckheimer, Ihorst and McCoy, and at Kingsport, Tennessee, by Clinton Mackenzie, are both interesting adaptations of Georgian or Colonial motives to modern needs. Brescia Hall, a dormitory for the College of New Rochelle, New Rochelle, N. Y., by McGill and Hamlin, is an interesting U-shaped building around a sunken court, with a central entrance tower, all treated in a free adaptation of English Collegiate Gothic.

Among business buildings, the aim towards higher and higher buildings, to the point of menace or absurdity, continues. Detroit, in the Book Building, by L. and P. L. Kamper, contemplates 60 stories; in New York plans by the Larkin Brothers were announced for a 110-story building on West 42nd Street. This development has produced a reaction; more and more people have begun to consider the skyscraper, with its concentration of population and the burden it imposes on the traffic and all public services, a menace rather than a convenience. Public opinion is wavering.

Of the commercial buildings already completed, the Barclay-Vesey Telephone Building in New York, by McKenzie, Voorhees, and Gmelin is easily the most important. Here at last traditional design has been forgotten; masses, carefully studied, and emphasized vertical lines have been left to tell their own story and create their own beauty. The ornament, carefully localized, is fresh in design, and full of meaning; it is never allowed to obscure the structural simplicity; it is never used as a substitute for composition. The great lobby with its direct handling of materials, its bronze insets in the floor, and its ceiling painted by Mack, Jenney and Tyler, proves that as beautiful a richness of color and form can be obtained freely and non-stylistically as in any of the historical styles; it is never ostentatiously bizarre. The whole building is destined to be a monument of American progress in architecture.

The New Æolian Hall in New York, by Warren and Wetmore, which was awarded the annual medal of the Fifth Avenue Association, is entirely different; strictly traditional, it uses French ornament and lavish materials to achieve a striking superficial effect without the strength of composition or originality of the other. The Engineering Laboratories of the Ford Motor Company at Dearborn, Michigan, by Albert Kahn, reveal still another trend, a free, direct simple use of a much modified Greek precedent. This building exceedingly well composed as it is and beautiful as a façade, may be criticized by some as failing in functional expression; it could be equally well a Post Office; it more resembles a public building than a laboratory.

The tremendous and necessary development of housing throughout the country continues apparently unabated. In city work the trend is still towards large and lavish hotels and apartment

hotels, such as the Hotel Peabody, Memphis, Tennessee, by Walter W. Ahlschleger, the usual city hotel with period rooms, great lobbies and much decorative plaster, or Emory Roth's slim 30-story Ritz Tower: in New York, whose Renaissance ornament seems ill at ease on its modern form. The New Allerton House, Cleveland, Ohio, Murgatroyd and Ogden, has greater simplicity and more sure beauty; it follows the dignified Italianesque style already set in the New York Fraternities Club Building by the same architects.

Another interesting building was the apartment hotel, 28 East 63rd Street, New York, by Henry Churchill and Herbert Lippmann, a most daring and in the main successful attempt to design a building in harmony with its surroundings but at the same time radically modern. Its setback treatment is particularly interesting, and its fenestration good.

Entirely in a different class, being long and low and for communities almost rural, are three hotels in the modern Spanish Colonial style that seems the accepted vernacular of Florida and California. The Antilla Hotel, Coral Gables, Florida, Lee W. Wade, is typical; the Ritz Carlton Cloister, at Boca Raton, Florida, by Addison Mizner, is picturesquely Latin, but functional expression is lacking, and one may question seriously the propriety of making a "boom" hotel look like a church or monastery. The hotel Casa de Manaña, at La Jolla, California, by Edgar Ullrich, is simple and direct and honest; it shows that the modernization of the Spanish colonial style is possible without false picturesqueness.

Moving picture houses dominate the field of theatre design; both of the two large and important theatres most in the public gaze are by C. W. and George L. Rapp, the Oriental, at Chicago, and the Paramount in New York. Both are enormous, lavish with gilding, color, expensive marbles; both are without scale, unstudied, and have as much architectural character as those typical movie sets in the rich villain's ballroom which they so nearly resemble.

The practical completion of the residential suburb of Mariemont, Ohio, is a landmark of community planning. It was laid out through the efforts of Mrs. Mary G. Emery, represented by Charles J. Livingood; with the idea always in mind of combining the economies of group houses and group planning with an absolute lack of standardization or any institutional feeling. In compliance with this ideal, the work was distributed to many different architects, all well known in their respective fields, and the resultant charm and variety had justified the experiment. Among those whose houses deserve notice, are Carl Ziegler, Ripley and LeBoutillier, Elzner and Anderson, Robert R. McGoodwin, Richard H. Dana, Jr., Edmund B. Gilchrist, Charles W. Short, Jr., and Lois L. Howe and Manning. The farm group by Hubert E. Reeves is also worthy of notice, and the school and church already mentioned. Another housing group also important is that at Kingsport, Tennessee; especially the church, by Grosvenor Atterbury, and the Inn and Schools, by Clinton Mackenzie.

The year 1926 saw the final completion and dedication, on Armistice Day, November 11th, of the great war memorial at Kansas City, by H. Van Buren Magonigle, with a fine sculptured frieze designed by Edith Magonigle. This notable

monument, the result of one of the most important competitions since 1918, with its great shaft on its magnificent terrace, is dignified, restrained, fresh, beautiful, a worthy expression of the emotion that lay behind its construction. Also during the year, a reproduction of the famous Hancock House in Boston (built in 1737 and destroyed in 1863, and one of the finest of New England Colonial Houses) was completed at Ticonderoga, under the supervision of M. H. Westhoff, and through the generosity of John H. Sturgis, to serve as headquarters for the New York State Historical Society.

In May an attempt was made in the annual Federal public buildings bill to approve and demand in all public buildings the most deadening type of standardization. This blow at our Federal architecture was happily averted, and the standardization clause stricken from the bill, largely through the efforts of the legislative committee of the American Institute of Architects and of Senator Bruce of Maryland.

The most important competition of the year was that for the Hartford County Court House and County Building. It was won by Paul Cret, associated with Smith and Bassett, with a design Greek in inspiration, but freely treated with a simple façade of ante instead of columns. It is a dignified solution of the problem, well planned and monumental.

Among other interesting projects the great general plan made by J. C. N. Forestier for Havana, Cuba, deserves mention. It shows a carefully considered scheme for the future growth of the city, with zones set aside for specific uses, and includes many interesting and monumental points of interest, and a great national park. Parts of the Havana plan have already been adopted.

**FOREIGN COUNTRIES.** Except in England, the tendency towards a greater and greater abandonment of tradition seems to be gathering even more momentum. In England, the influence of Georgian and Gothic work is still strong, and there seems to be also a certain amount of direct influence from contemporary work in America. The Second Church of Christ Scientist in London, for instance, by Sir John Burnet and partners, designed by Thomas S. Tait, has an exterior of brick and stone which is just such a simple adaptation of Italian Romanesque as is common in American churches today, treated with the same freedom of selection. The interior, however, suddenly deserts the simple style of the exterior and becomes not only modernistic but confused.

Leith House, Gresham St., London, by Richardson and Gill, is an extremely simple treatment of a curved façade in a sort of simplified classic, depending for its effect altogether on its fenestration. Hambro's bank, London, by Niven and Wigglesworth, and the Kensington offices of the Gas Light and Coke Co. by H. Austen Hall, are both straight Georgian adaptations of considerable charm. Interesting also are the Sutton Valence School, Kent, by Adams, Holden and Pearson; very direct and simple to the point of austerity, and the Homes of Rest for Miners, Hucknall, Nottinghamshire, by Sir Reginald Blomfield. The Pearce Memorial, Thame, Oxfordshire, designed by Prof. J. Herbert Worthington, assisted by students of the Royal College of Art, London (H. J. Dow, a student, modelled the principal fountain figure) is a lovely, un-

ostentatious and inviting composition of walls, walks, pools, and gardening.

Especial notice must be given to New Ways, a house in Northampton, designed by Dr. Paul Behrens of Vienna, expressive of the most radical type of Viennese modernism, and to the continued work at Delhi, the new capital city of India, by Sir Edwin Lutyens and Sir Hobart Baker. This most ambitious scheme combining English Renaissance and Indian Mogul motives, is fast taking shape. The entire composition when completed will form one of the most striking governmental groups of the world.

**FRANCE.** In France, only one important work in the old traditional Renaissance style deserves notice, the Crédit Lyonnais at Rheims by A. Narjoux, and it seems old-fashioned. Everything else is frankly, often bizarrely, modernist, varying from the restrained and powerful Monument au Morts of the city of Lyon, by Charles Abella, architect, and Marcel Gaumont, sculptor, magnificent in scale and dramatic power, through the Stadium at Lyon, by Tony Garnier, simple, direct, but with its grand concrete arches appearing paper-thin and weak, or the proposed Hotel for Business Men in Paris by J. Ferret, shown at the Salon, with its vertical lines and setbacks, to the merely eccentric church of Ciry-Salsogne, Aisne, by Ed. Monestès.

**GERMANY.** In Germany, the swing to the left is complete and decisive. Moreover, the entire character of the work has changed; generally the last vestiges of tradition have unfortunately disappeared. The influence of such abstract French designers as Le Corbusier and Jeanneret, and of such Germans as Eric Mendelsohn is supreme. Beautiful exceptions are found; an almshouse at Rottenburg O. T., by Heinrich Söllner, has the typical German picturesqueness of high roofs. The group of buildings for the Düsseldorf Exposition, by Wilhelm Kreis, is modern and fresh, but lovely, delicate, modulated. In particular the Planetarium, the Restaurant, with a fluted domed ceiling, and the Residenz Theatre (also by Wilhelm Kreis with a daring ceiling of scales, and an effective proscenium arch, deserve commendation. Also at Düsseldorf, apartment houses by Beckner, Kutzner, and Meyer have a certain amount of authentic German beauty; balconies and porches and grouping give them interest. In Lübeck, F. W. Virck has designed a public bath of great interest, and a trades school with interesting terra cotta figures by Richard Kuehl. Mebes and Emmerich in Neu Köln have some interesting apartment house groups in brick and concrete.

For the rest, the dominance of the cube and the harsh angle is complete—curves seem forgotten. Distel and Gubitz in Hamburg have done a great office building, the Montanhof, with strange abstract figures as ornament, and many triangular bays. Eric Mendelsohn, in his Nureinburg department store, uses his usual contrasts of rather meaningless verticals and horizontals, and the "Bauhaus," at Dessau, by Walter Gropius, a great trades school group with houses attached, is entirely mechanical and harsh. Typical of the use of cubes like children's blocks is the series of group houses in Berlin by Brende Luckhardt and Alfors Anker.

In Vienna, much more of the traditional Viennese graciousness permeates the modernism. The work is principally housing, groups of tenements or apartment houses. The simplicity,





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THE BARCLAY-VESEY BUILDING  
OF THE NEW YORK TELEPHONE COMPANY  
MCKENZIE, VOORHEES & GMELIN, ARCHITECTS



directness or lack of striving for effect of these groups is remarkable. Frequently it achieves real charm. Typical are groups by Josef Frank on the Kongressplatz in Vienna, by Caesar Popovics in the Albertgasse, and by Josef Hoffmann; the latter quite classical despite its modernism.

The same tendency towards radicalism in design seems universal in Europe, appearing in different guises in different countries. In Holland, for instance, it would seem to be the influence of Frank Lloyd Wright that is supreme; everywhere the recent work shows broad overhanging cornices, exaggerated horizontal lines. Typical are the houses at the Hague, by S. Brandes. In the Scandinavian countries it is a modernism chastened and cool, and always permeated completely by a strong Renaissance tradition that keeps it from excesses of strangeness. It is sane, quiet, sure; as in the Concert Hall or the Enskilda Bank by Ivor Tengbom, both in Stockholm.

A competition held in China for a tomb for Dr. Sun Yat Sen was won by an American trained architect, Y. C. Lu of Shanghai, with a strikingly simple and monumental design in the style of North China. It is to be hoped that this indicates the birth, among the modern Chinese, of an appreciation for their magnificent architectural heritage, and the beginning of a Chinese Renaissance.

**ARGENTINA**, är'jën-tě'ná. A South American republic on the eastern coast of the southern part of the continent, consisting of 14 provinces, 10 territories and the federal district. Capital, Buenos Aires.

**AREA AND POPULATION.** The total area of Argentina is 1,153,119 square miles. According to figures supplied by the Argentinian General Bureau of Statistics, an estimate of the population of the republic as of Dec. 31, 1925, based on the census of 1914 and the birth, death, and migration records since that time, showed a total population of 10,087,118. According to the census of 1914 (the latest official count), Argentina had 7,885,237 inhabitants, while the natural increase in population by the end of 1925 was estimated at 1,818,219 inhabitants and the increase by immigration was placed at 383,652. The number of immigrants in 1925 was placed at 125,365 and the number of emigrants at 49,840. Normally immigration and emigration balance, due to the influx and exodus of large numbers of Italian and Spanish laborers before and after the harvests. The population of the larger cities were as follows: Buenos Aires, June, 1914, 1,575,813, and according to the census of June 1, 1925, 2,310,441; Rosario (Santa Fé), 1914, 222,592 (estimated December, 1923, 265,000); Córdoba, 1914, 134,935 (estimated, December, 1923, 156,000); La Plata, 1914, 90,436 (estimated, December, 1923, 151,000); Tucumán, 1914, 91,216; Santa Fé, 1914, 59,974; Mendoza, 1914, 58,790; Avellanda, 1914, 46,277; and Bahia Blanca, 1914, 44,113.

**EDUCATION.** Primary education is free, secular, and compulsory for children from 6 to 14 years of age. No later statistics on education are available than those given in the preceding YEAR BOOK, when figures for 1922 showed 9940 primary public schools, with 40,169 teachers and 1,227,400 pupils. During 1923 there were in the entire country 74 secondary, normal, and special schools under the Ministry of Public Instruction, divided as follows: 40 national second-

ary schools, one secondary school for girls, 84 normal schools, 6 commercial schools, 3 industrial schools, 15 vocational schools, 1 school of mining and chemical industries, 16 women's vocational schools, 1 institute of pedagogy, 1 institute for teachers of modern languages, 2 deaf mute schools, 1 institute for the blind, and a national academy of fine arts and a school of fine arts. The registration of pupils in these schools amounted to 73,296, of whom 31,396 were boys and 41,900 were girls; the average attendance was 64,900. Ninety-six per cent were Argentines and the rest foreigners. The teachers in these schools numbered 6366. There were also 188 private schools with 9345 pupils. In 1924 there was one national normal school for teachers in secondary schools with 76 teachers and 775 students. For higher education there are the following national universities with their latest figures for enrollment: National University of Buenos Aires, 9518; Córdoba, 1977; University of the Littoral, 2115; Tucumán, 1292 (1925); La Plata, 1464.

**PRODUCTION.** Agriculture and stock raising form the chief pursuits in Argentina. About 500,000,000 acres is estimated to be devoted to these two occupations, being about equally divided between the two. Of the cultivable portion about 10,000,000 acres require irrigation. There are about 238,000,000 acres in federal territories which are suited to stock raising, and these lands are conditionally offered free, or for sale or on lease. The area sown to wheat in 1924-25 was 17,785,235 acres and to oats, 2,645,370. Other important crops are maize and flax. Besides grain, cotton, sugar, the vine and tobacco are also cultivated. According to figures supplied by the Department of Rural Economy and Statistics, the cotton crop for 1923-26 was expected to reach 97,400 tons. The growing importance of this crop may be estimated from the fact that in 1921-22 the crop only reached 12,490 tons. The area under sugar is approximately 237,500 acres and the production of sugar in 1925 was 394,700 tons. The area under the vine is about 280,000 acres and the number of gallons of wine produced in 1925 was 143,091,872. The area under tobacco in 1924 was 22,060 acres and under cotton in 1924-25 was 261,250 acres. According to the latest livestock census there were in the republic 37,064,850 cattle; 30,671,841 sheep; and 1,436,368 hogs.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce the real or commercial value of Argentina's foreign trade in 1925 amounted to 1,744,777,548 gold pesos, which was 95,327,027 pesos less than in 1924, or a decline of 5.2 per cent. The value of imports for 1925 was given at 876,847,666 gold pesos as compared with 828,709,993 for the previous year, which is an increase of 48,137,673 pesos or 5.8 per cent. The 1925 exports were given as 867,929,882 gold pesos as compared with 1,011,394,582 pesos in 1924, a decline of 143,464,700 pesos or 14.2 per cent. The unfavorable trade balance for the year, therefore, amounted to 8,917,784 gold pesos as compared with the 1924 balance of 182,684,589 gold pesos. The reduced balance of trade was due partly to the decline during the first half of the year in exports of agricultural products and meat, which were partially offset by the higher prices obtained. Increased imports contributed toward a further decline in the yearly

balance. The value of the duty-free merchandise was 27.5 per cent of the total imports, while the corresponding percentage for 1924 was 30.3 per cent.

The import duties collected in 1925 amounted to 133,089,880 gold pesos, or 15.2 per cent of the commercial value of the dutiable imports. Collections, on the other hand, represented 20.9 per cent of the value of the dutiable merchandise imported. The official or tariff evaluation of the imports for 1925, including the 60 per cent increased tariff appraisalment, was given at 663,-631,113 gold pesos, as compared with 591,835,709 in 1924. The nominal value (denoting quantity) of imports for 1925 (425,470,000 gold pesos) was the highest on record, being some 4,000,000 pesos more than the corresponding figure in 1913. The tabulation below shows, by groups, the tariff values of imports during 1925.

**TARIFF VALUES OF ARGENTINE IMPORTS**  
(In gold pesos)

Item	1925	1924
Livestock .....	688,693	585,676
Foodstuffs .....	66,530,710	48,120,473
Tobacco and products .....	8,210,793	5,356,518
Beverages .....	5,221,981	4,296,436
Textiles, etc. ....	133,733,673	125,407,990
Oil, fixed, mineral, volatile, medical and grease .....	61,426,243	63,474,558
Chemical and pharmaceutical substances and products .....	26,689,849	25,811,523
Paints and dyes .....	5,801,114	5,259,390
Timber, other wood substances, and products .....	26,105,316	23,828,654
Paper and paper products .....	25,430,643	20,603,641
Leather and leather products .....	3,042,845	2,835,420
Iron and iron products .....	137,848,971	116,812,396
Other metals and metal products .....	21,387,010	24,093,777
Agricultural machinery and implements .....	18,857,550	21,832,534
Stone, earth, glass and ceramic products .....	60,112,702	58,317,471
Electricity .....	13,728,075	13,020,273
Various .....	48,814,945	32,278,970
<b>Totals .....</b>	<b>663,631,113</b>	<b>591,935,709</b>

The total value of Argentine 1925 exports was given at 867,929,882 gold pesos, or less than the 1924 total by 143,464,700 pesos. This decline was due to a decrease of 4.9 per cent in exports of livestock products and a decline of 22.3 per cent in agricultural products exported. Exports of forestal products during 1925 increased 29.7 per cent over those of the preceding year. In tonnage the 1925 exports amounted to 10,115,000 metric tons as compared with 14,400,000 tons in 1924, showing a decrease of 29.8 per cent.

**ARGENTINE EXPORTS OF PRINCIPAL PRODUCTS FROM JANUARY 1 TO DECEMBER 24, 1924 AND 1925**

Article	1924	1925
Wheat .....	4,433,000 tons..	2,904,000
Corn .....	4,588,000	3,094,000
Linseed .....	1,404,000	1,020,000
Oats .....	717,000	435,000
Birdseed .....	4,000	3,000
Butter .....	1,110,000 cases..	997,000
Sheepskins .....	29,000	24,000
Frozen and chilled beef .....	585,000	719,000
Mutton and lamb .....	268,000	308,000
Dry and salted hides .....	8,975,100	7,609,176
Wool (Oct. 1 to Dec. 24) .....	58,000	61,000

**FINANCE.** The budget for 1925 balanced at 588,641,067 paper pesos. The total Argentine

public debt on Dec. 31, 1925, amounted to 1,743,792,852 paper pesos, according to the annual message of the president to congress at the opening of the 1926 regular session on July 1. This amount compares with 1,523,-581,867 pesos at the end of 1924. (1 paper peso averaged \$0.4044 in 1925 and \$0.344 in 1924.) The total floating debt of the republic on April 30, 1926, amounted to 479,259,908 paper pesos. This figure does not include the floating debt of the State Railways, amounting to 193,012,348 pesos. The debt of the State Railways was increased 8,000,000 pesos in 1925. The floating debt of the railways includes 24,250,000 pesos owed to the national treasury, to which must be added advances made for payment of interest amounting to 9,401,605 pesos, or a total of 33,651,605 owed to the national treasury. The floating debt of the government is divided as follows:

	Paper pesos
<b>Internal:</b>	
Short-term credits .....	341,199,000
Exchange difference .....	35,000,000
Conversion fund .....	15,909,091
<b>External:</b>	
Loan of \$27,000,000 .....	63,597,272
Loan of \$10,000,000 .....	23,554,545
<b>Total .....</b>	<b>479,259,908</b>

Since the last presidential message to congress a year ago this figure shows a reduction of 194,574,946 pesos, effected largely through the application of the proceeds of two foreign loans floated in 1925. See preceding YEAR BOOK.

**COMMUNICATIONS.** The total tonnage of shipping entering Argentine ports (except Bahía Blanca) in 1924 was 2949 vessels of 10,011,-331 tons of which 1343 of 4,689,945 tons were British.

At the opening of the 1926 session of the Argentine Congress in July, President de Alvear gave a report on the operation of the Argentine railways during the past fiscal year. In this report he described railway conditions in general as satisfactory, although revenues were less in most cases than during the previous year. The total length of the Argentine railways is now 23,669 miles, of which 4350 miles are owned by the state. The number of passengers carried during the fiscal year was 140,670,000, an increase of 5 per cent over 1925. A decrease of 8½ per cent in freight traffic during the fiscal year just ended was reported. The total railway revenue amounted to \$250,695,000, a decrease of 5 per cent. Operating expenses during the year amounted to \$176,664,000 and net \$74,-031,000, a decrease of 15 per cent. The net receipts of the Argentine State Railways were \$48,676,385, while the expenses for the year amounted to \$49,063,643. The report cites a number of improvements in line with the policy of extending and modernizing both the privately owned and state owned railways and mentions as examples the construction of the new Central Argentine terminal station at Rosario; the enlargement of the Retiro station and the track elevation of most of the city lines owned by the Buenos Aires and Pacific.

**GOVERNMENT.** The executive power is vested in a president elected for six years, and the legislative power in a national congress, comprising a senate of 30 members elected for nine

years, and a chamber of deputies of 158 members elected for four years by the people at the ratio of one deputy for every 49,000 inhabitants (census of 1914). One half of the chamber retires every two years. The cabinet is appointed by and is under the direction of the president, and comprises the departments of foreign affairs, finance, interior, justice and public instruction, war, agriculture, marine, and public works. President at the beginning of 1926, Dr. Marcelo T. de Alvear (assumed office, Oct. 12, 1922); vice-president, Dr. Elpidio Gonzalez.

**HISTORY.** The year proved a fairly quiet one as far as the internal history of the country was concerned. The national legislature assembled on July 1, two months after the time set by the constitution, for which it was bitterly attacked in the press. President de Alvear in his opening message requested the members of congress to give their serious and undivided attention to the legislative tasks before them and to end the deadlock that had existed because of the activities of his political opponents. He stated that as the chief executive he was above political passion and anything he did was because he had the sole interests of the country at heart. He stressed the growing importance of the foreign affairs of the country and cited as examples the visit of the Prince of Wales and the unveiling of a statue of San Martin at Washington. He suggested that the Argentine diplomats at Mexico City and Rome be raised to the rank of Ambassadors.

The regular session of congress ended on September 30, but the president immediately called a special session to dispose of important legislation, particularly the budget for 1927, as well as the question of railway finance. The outstanding legislative act of the regular session was the complete repeal of the unpopular Workman's Pension Act of 1923, which levied a sum on all employers and employees. Both groups were opposed to it and a strike and lock-out occurred in 1924 when the first payments were due. In 1925 the law was suspended and in 1926 repealed altogether and provision made for the return of contributions.

It appeared that the controversy which had been waged with the Vatican since 1923 over the question of the appointment of an Archbishop for Buenos Aires was settled in September. As related in previous YEAR BOOKS, the Pope had refused to ratify an appointment made by the president of Argentine, whereupon for several years the president refused to make another suggestion. According to the new agreement the president was to make a nomination from three names suggested by the senate. On October 5 he nominated Fray Bottaro, who accepted the appointment, and expected to be confirmed by the Pope. Needless to say the Social Party, which favored the complete separation of state and church, was heartily disgusted with the settlement of the affair.

As the year drew to a close the usual preliminaries to a presidential election were rife. President de Alvear goes out of office in 1928, and is ineligible for reelection. The various parties were laying their plans and bringing forward their nominees for the political struggle which was almost two years off.

**ARIZONA.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 334,162. The estimated

population on July 1, 1926, was 445,000. The capital is Phoenix.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay	1926	181,000	647,000 *	\$9,495,000
	1925	165,000	559,000 *	8,399,000
Wheat	1926	38,000	950,000	1,235,000
	1925	32,000	736,000	1,288,000
Barley	1926	25,000	875,000	744,000
	1925	20,000	700,000	700,000
Grain sorghums	1926	35,000	1,120,000	672,000
	1925	30,000	660,000	436,000

\* tons.

**MINERAL PRODUCTION.** Arizona ranked thirteenth of the States in 1924 in respect to the total value of its mineral products. This total was \$100,325,413, in 1924, as against \$104,940,213 in 1923. Copper supplied the chief part of this total. The State's copper production was 722,653.457 pounds in 1925; in 1924, 672,365,115 pounds. Gold production was, in amount, 204,471 troy ounces in 1925 and 226,385 troy ounces in 1924; in value, \$4,226,800 in 1925 and \$4,678,800 in 1924. Silver production was, in amount, 7,371,358 troy ounces in 1925 and 6,390,684 troy ounces in 1924; in value, \$5,115,722 in 1925 and \$4,281,758 in 1924.

Lead was produced in considerable quantity in the state, and limestone, clay products and asbestos were also produced in commercial amounts.

The value of the gold, silver, copper, lead, and zinc produced by mines in Arizona in 1926 was \$111,106,000, a decrease from \$113,138,198 in 1925, according to estimates of the U. S. Bureau of Mines.

There were increases recorded, however, in gold, silver, copper, and zinc, but these increases were not sufficient to balance the decrease in lead and the general decrease in metal prices. Arizona retained its place as the leading copper producer of the United States and was first in the combined value of the five metals. The gold output increased from \$4,170,355 in 1925 to \$4,982,000 in 1926 as a result of a large increase in the production of gold ore from Union Pass in Mohave and Bisbee in Cochise County. The largest gold producers in Arizona were the United Verde, Copper Queen, Calumet and Arizona, New Cornelia, Tom Reed, Katherine, Shattuck-Denn, Magma, United Verde Extension, and Old Dominion mines. The silver output increased from 7,257,868 ounces in 1925 to about 7,479,000 ounces in 1926, but the value decreased from \$5,036,961 to \$4,667,000, as the average price of silver decreased. In recent years the output of silver from Arizona mines has gradually increased and in 1926 it exceeded that of both Idaho and Nevada. The United Verde mine was by far the largest silver producer in Arizona, but other large producers were the Calumet and Arizona, Magma, Copper Queen, United Verde Extension, Shattuck-Denn, New Cornelia, and Bunker Hill mines. The copper output increased slightly from 713,355,120 pounds in 1925 to about 715,000,000 pounds in 1926, but the value decreased from \$101,296,428 to \$98,670,000, as the average price of copper decreased. Eight copper smelting plants within the State were active throughout the year, the plant at Humboldt was blown in February 20, and considerable

ore was also treated at El Paso, Tex. The lead production in Arizona decreased from 23,876,017 pounds in 1925 to about 22,920,000 pounds in 1926, and the value from \$2,077,213 to about \$1,902,000. The output of zinc recovered from Cochise, Yavapai, and Mohave Counties increased from 7,332,116 pounds in 1925 to 12,045,000 pounds in 1926, and the value from \$557,241 to about \$885,000.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$5,220,821, and were at the rate of \$13.02 per capita. They included \$1,789,927 for education, apportioned to the minor State divisions. The corresponding rate per capita was in 1924, \$13.56; and in 1918, \$10.02. Interest on debt totaled \$68,331 in 1925, and permanent improvements \$2,353,931. These payments, added to the expenses of the general departments brought the total of State payments to \$7,643,083. For highways were expended \$2,594,722, of which \$643,353 was for maintenance and \$1,951,369 for construction.

Revenue receipts of the State for 1925 totaled \$6,571,902. They exceeded by \$1,282,750 the payments, not including those for permanent improvements, but were less by \$1,071,181 than the total with these included. The deficiency was met from the proceeds of debt obligations. Revenue receipts were at the rate of \$16.39 per capita. Property and special taxes formed 58.1 per cent of the revenue, in 1925, as against 56.4 per cent in 1924. Their per capita rate was \$9.52 in 1925, as against \$11.30 in 1924. Earnings of the general departments and compensation for services rendered by State officials furnished 5.4 per cent of the 1925 revenue; business and non-business licenses, 15.2 per cent. These included proceeds of a sales tax on gasoline.

The net indebtedness of the State on June 30, 1925, was \$2,171,024, or \$5.41 per capita, as against \$5.85 per capita in 1924. The assessed valuation of property subject to tax was \$652,444,309. Taxes levied amounted to \$3 699,088, or \$9.22 per capita.

**TRANSPORTATION.** The total mileage of railway line Dec. 31, 1925, was 2,378.43. There were constructed in 1926 146 miles of first track and 24 miles of second track; in all 170 miles of track.

**EDUCATION.** The State was divided into four territorial sections, in each of which was held a meeting of the Educational Association. The president of the State Association had charge of the programmes carried out at the sectional meetings, and the same instructors appeared at all meetings. The proceeding was a success in calling forth the attendance of a considerably greater number of teachers than had attended under the system of a single meeting in the State.

**CHARITIES AND CORRECTIONS.** The Board of Directors of State Institutions, created in 1919, has authority over charitable and penal institutions of the State. The chief of these at the end of 1926 were the State Hospital for the Insane, at Phoenix, with about 600 inmates; Industrial School, Fort Grant, a correctional and educational institution for boys and girls from 11 to 18 years, with about 80 inmates; Pioneers' Home, Prescott, for the aged dependent, with

115; and the State Prison, Florence, with 400, including 12 women.

**POLITICAL AND OTHER EVENTS.** At the election of November 2, Gov. G. W. P. Hunt, Democrat, was reelected to serve a sixth term. He was opposed by E. S. Clark, Republican. The Democratic candidate for U. S. Senator, Carl Hayden, was elected over the Republican candidate, Sen. Ralph H. Cameron, who sought reelection. Lewis L. Douglas, Democrat, was elected to the U. S. House of Representatives to succeed Hayden. Other officers elected in 1926, to take office in 1927 were: Secretary of State, James H. Kerby; Treasurer, J. C. Callaghan; Auditor, Ana Frohmiller; Attorney-General, John W. Murphy; Superintendent of Public Instruction, C. O. Case; Judge of the Supreme Court, A. G. McAllister.

During the year Governor Hunt maintained his opposition to the interstate Colorado River Compact, writing on Feb. 10 to United States Senator Ashurst against what he contended to be the plundering of the State for the benefit of California and other neighboring commonwealths, at Arizona's expense. A contract for the construction of the Coolidge dam, a part of the San Carlos Indian reclamation project, was let to bidders in Los Angeles by the Department of the Interior, at a bid of \$2,268,525, on December 2. The dam was to be completed by Jan. 1, 1929. Situated at the entrance to Box Canyon eight miles below San Carlos, on the Gila River, it was to have a height of 250 feet, a width of 600 feet at the crest, and to impound water sufficient to irrigate about 100,000 acres near Casa Grande and Florence owned by whites and Pima Indians. An extension of the Southern Pacific Railroad through Phoenix and the Salt River valley was completed, and was opened October 15. The line, some 200 miles in length, running from the old main line at a point some 50 miles east of Yuma to join it again about forty miles east of Phoenix, had been under construction for two years.

**OFFICERS.** Governor, G. W. P. Hunt; Secretary of State, James H. Kerby; Treasurer, V. S. Wright; Auditor, Wayne Hubbs; Attorney-General, John W. Murphy; State Superintendent of Public Instruction, C. O. Case.

**JUDICIARY.** Supreme Court: Chief Justice, A. G. McAllister; Associate Justices, Henry D. Ross, Alfred C. Lockwood.

**ARIZONA, UNIVERSITY OF.** A coeducational institution of higher education at Tucson, Arizona; founded in 1885. The 1926 autumn enrollment totaled 1606, and the summer session of 1926 had a registration of 253 students. The number of members on the faculty in the autumn of 1926 was 144. The University receives Federal and State support. The endowment fund amounted to \$10,000. The total income for the year 1925-26 was \$1,517,632. The new library, completed at an approximate cost of \$450,000, was first used in September, 1925. It contains 75,000 volumes. A new gymnasium for men, costing approximately \$175,000, was completed in September, 1926. President, Cloyd H. Marvin, Ph.D., LL.D.

**ARKANSAS. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,752,204. The estimated population on July 1, 1926, was 1,903,000. The capital is Little Rock.

**AGRICULTURE.** The following table gives the

acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod bu.	Value
Corn	1926	2,026,000	41,533,000	\$33,226,000
	1925	2,006,000	28,084,000	27,241,000
Wheat	1926	30,000	405,000	518,000
	1925	30,000	390,000	585,000
Cotton	1926	3,782,000	1,620,000 <sup>a</sup>	89,100,000
	1925	3,738,000	1,600,000 <sup>a</sup>	128,770,000
Rice	1926	189,000	10,017,000	10,017,000
	1925	175,000	7,525,000	11,288,000
Hay	1926	722,000	814,000 <sup>b</sup>	12,564,000
	1925	709,000	553,000 <sup>b</sup>	9,580,000
Oats	1926	243,000	5,346,000	2,780,000
	1925	261,000	4,176,000	2,422,000
Potatoes	1926	32,000	1,920,000	3,520,000
	1925	28,000	1,680,000	3,528,000
Sweet potatoes	1926	39,000	4,212,000	4,001,000
	1925	36,000	3,060,000	3,825,000
Sorghum sirup	1926	38,000	2,926,000 <sup>c</sup>	2,487,000
	1925	38,000	2,584,000 <sup>c</sup>	2,403,000

<sup>a</sup> bales, <sup>b</sup> tons, <sup>c</sup> gals.

MINERAL PRODUCTION. Petroleum, the State's leading mineral product, rose in 1925 to a production of 74,749,000 barrels, as against 46,028,000 barrels in 1924. The total in 1925 was valued at \$70,000,000; in 1924 at \$43,130,000. The coal production for 1925 was 1,220,039 net tons. That in 1924 was 1,451,503 short tons. Coal production for 1925 was valued at \$4,829,000; that for 1924 at \$5,898,000. The natural gas output in 1924, the latest year available, was 36,616,000,000 cubic feet, valued at \$4,908,000. Its total production in 1923 was 24,215,000,000 cubic feet, valued at \$3,255,000. Gasoline from natural gas was produced in 1925 to the quantity of 19,000,000 gallons, and in 1924 of 17,533,000 gallons; and to the value in 1925 of \$2,050,000, and in 1924 of \$1,784,000. The State continued in 1925 to produce the greater part of the domestic bauxite, the year's production being in 1925 296,320 long tons and in 1924 327,630 long tons; the value in 1925, \$1,878,450, and in 1924 \$1,981,000. The total value of the mineral production of the State in 1924 was \$61,748,999; in 1923, \$41,954,319.

FINANCE. As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$11,238,257, and were at the rate of \$6.10 per capita. They included \$3,731,923 for education, apportioned to minor State divisions. The rate per capita for maintenance and operation of the general departments was in 1924, \$4.68, and in 1918, \$2.46. Greater apportionments for schools largely made up the 1925 increase. Interest on debt totaled \$128,597, and permanent improvements \$8,417,793. Total payments for general department expenses, interest and outlays were \$19,784,647. For highways was expended \$9,560,551, of which \$1,511,816 was for maintenance and \$8,048,735 for construction, occasioning a large increase for outlays in 1925.

Revenue receipts of the State for 1925 totaled \$17,740,073, and were at the rate of \$9.62 per capita. They exceeded by \$6,373,219 the payments excepting for permanent improvements, and were \$2,044,574 less than the total with these included. Payments in excess of revenue receipts were met from proceeds of debt obligations. Property and special taxes formed 38.8

per cent of the revenue in 1925, as against 48.1 per cent in 1924 and 75.4 per cent in 1918; their per capita rate was \$3.73 in 1925, \$3.43 in 1924 and \$2.13 in 1918. Earnings of the general departments and compensation for services rendered by State officials furnished 6.9 per cent of the 1925 revenue; business and non-business licenses, 40.6 per cent. These included corporation taxes and sales taxes on gasoline, cigars and cigarettes.

The net indebtedness of the State on June 30, 1925, was \$2,443,275, or \$1.33 per capita, as against \$1.36 per capita in 1924. The assessed valuation of property subject to tax was \$599,776,921. Taxes levied amounted to \$5,218,059, or \$2.83 per capita.

TRANSPORTATION. The total mileage of railway line at the end of 1925 was 4901.24. Virtually the only new construction in 1926 was 5 miles of second track. Ten miles of line of the Cache Valley Railroad from Sedgwick to Light were abandoned and taken up.

EDUCATION. An important aid to educational expansion in the lower schools was supplied by the adoption during the year of a measure increasing by 50 per cent the limit constitutionally allowed to local districts for taxation for school purposes. This measure, known as constitutional amendment Number 13, raises the maximum tax rate permitted to the local districts from the old figure of 12 mills to that of 18 mills on the dollar. For the school year 1925-1926 the school population was 626,730, including colored, 156,213. The enrollment of pupils was 495,236; of this number the white enrollment was 351,063, 191,471 being male and 189,592 female; and colored enrollment was 114,170. In elementary schools enrollment was 463,197; in high schools, 32,039. Expenditures for public elementary and secondary schools totaled \$12,194,868. For State institutions of higher learning was expended \$2,546,647.

CHARITIES AND CORRECTIONS. A State Board of Charities and Corrections, formed June 10, 1925, has charge of the State's charitable, penal and correctional institutions. It is composed of three members. The following were the institutions under its charge, with their populations, at the end of 1926: State Hospital for Nervous Diseases, 2500; State Penitentiary, 1350; Boys' Industrial School, 300; Girls' Industrial School, 100; State Farm for Women, 36; Arkansas School for the Blind, 303; Arkansas School for the Deaf, 350; Negro Boys' Industrial School, 100; Confederate Home, 200.

POLITICAL AND OTHER EVENTS. At the election of November 2 Senator Thaddeus H. Caraway, Democrat, was reelected, for the six year term in the United States Senate beginning March 4, 1927. From the State were elected to the United States House of Representatives a solid delegation of seven Democrats, these all being Representatives already in the House. John L. Martineau opposed Governor Terral for the Democratic nomination as a candidate for governor, and won in the State primaries on August 10, in spite of opposition from supporters of prohibition. He was elected governor, with the entire Democratic ticket, at the State election. The election of 1926 produced in the 1st of State officers and judiciary the following other changes: for Treasurer, Ralph Koonce; Commissioner of State Lands, Highways and Improve-

ments, J. P. Womack; Supreme Court Justices, William F. Kirby and James W. Mehaffy. Mr. Mehaffy died shortly afterward, and his place was to be filled by appointment.

Litigation before Chancellor George M. Le-croy, between former partners in the purchase of road improvement district bonds, brought forth in November allegations of corrupt practices in road financing, involving officials in twelve counties. Members of the Legislature announced the intention to ask an investigation when the General Assembly should convene in 1927. A severe tornado did extensive damage in Cleburne, Conway and Jefferson Counties on November 25, and took 29 lives. Arkansas business interests occupied themselves during the year with efforts to bring more cotton mills into the State. Manufacturing districts of the East were canvassed by a traveling party of 100 in November. Arrangements were reported December 9 for the removal of a New Jersey tire fabric mill to Morrillton, there to erect a mill of 40 looms and 10,000 spindles. The Cotton Growers' Coöperative Association for the purpose of pooling and carrying excess cotton of the State's 1926 crop was formed December 2 at Little Rock. It was to work independently of the ordinary cotton pools sponsored by the State Cotton Growers' Association, which were to operate as usual, and it formed one of the series of emergency pool organizations created throughout the cotton belt after the general plan presented by the Federal authorities.

OFFICERS. Governor, Thomas J. Terral; Secretary of State, J. B. Higgins; State Treasurer, D. M. Blackwood; Auditor, J. C. Cone; Attorney-General, W. M. Applegate; Commissioner of State Land, Highways, and Improvements, Herbert R. Wilson; Commissioner of Mines, Manufactures, and Agriculture, William N. Wilkes; Superintendent of Public Instruction, A. B. Hill; Adjutant-General, Heber L. McAllister.

JUDICIARY. Supreme Court: Chief Justice, E. A. McCulloch; Associate Justices, Carroll D. Wood; Jesse C. Hart; Frank G. Smith; T. H. Humphreys.

**ARKANSAS, UNIVERSITY OF.** A coeducational State institution at Fayetteville, Ark.; founded in 1871; comprising colleges of arts and sciences, education, engineering, agriculture (including an experiment station), and schools of law, business administration, and medicine, the last named being at Little Rock. In the autumn of 1926 the enrollment was about 2000, and for the summer school of 1926, 810. The number of faculty members, including administrative officers, was 180 in the autumn of 1926. The number of volumes in the library was 68,000. The productive funds amounted to \$132,000, and the income for the year 1926-27 was approximately \$1,100,000. The State legislature of 1925 appropriated \$650,000 for new buildings, which were under construction in 1926 and were expected to be completed about June, 1927. President, John Clinton Futrell, M.A., LL.D.

**ARMAMENT, LIMITATION.** Cf. See DISARMAMENT.

**ARMENIA.** A term applied since April 2, 1921, to the new state known as the Socialist Soviet Republic of Armenia, or the Republic of Erivan. Before the World War, Armenia sometimes indicated the Armenian territories

of the former Turkish Empire and sometimes the entire region in which the dominant race element was Armenian. In the former Turkish Empire the Armenians constituted about 38.9 per cent of the population in the following vilayets: Erzerum, Bitlis, Kharput, Diarbekir, Sivas, and Van; being in the minority in the first five and a majority in the last-named. The present number of Armenians in the Turkish Republic is unknown, a large part of the Armenian element having disappeared from Anatolia during the War and afterwards as a result of massacres, deportations, and migrations. The population of the former Turkish Empire known as Armenia and Kurdistan was given at 2,470,900.

**SOCIALIST SOVIET REPUBLIC OF ARMENIA.** This republic comprises the southeast frontier region of Transcaucasia which formerly belonged to the Russian Empire, but which in November, 1919, split off from Bolshevik Russia. The whole Transcaucasian region comprised the three main peoples, Armenians, Georgians, and Tartars, and was at first constituted into a federal republic which lasted only a few weeks, when it was dissolved into three component parts, the Armenian Republic, Georgia, and Azerbaijan, each of which declared its independence. The *de facto* independence of the Armenian Republic was declared on May 26, 1918, and was recognized by the Allies in January, 1920. Shortly afterwards it fell entirely under the influence of the Russian Soviet, and was proclaimed a Soviet republic on April 2, 1921. It later joined the new Russian federated state. The area is 15,240 square miles and the population, 1,214,391. The capital, Erivan, has a population of about 90,000. In 1923 the state maintained 577 schools and in 1924, 2344.

Agriculture engages the great proportion of the population, wheat, rice, licorice root, tobacco, cotton, and wine being the leading products. The area sown in 1924 was 249,000 dessiatines, which represents about 90 per cent of the area under cultivation before the World War. The cultivation of cotton, which fell away to almost nothing after the Bolshevik Revolution, is gradually assuming its place of importance in the agricultural activities, 16,000 dessiatines being devoted to its culture in 1924. The mining of copper is also becoming a leading industry again, 1500 persons being engaged in this activity. In 1923 there were 1,405,000 head of cattle in the republic. In the following year the value of the output of state manufacturing enterprises was 876,000 rubles. Actually, having no seaports, the country is almost cut off from the outside world, being compelled to depend for its communications on the single Transcaucasian Railway which passes through its territory on the way from Batum to Baku. In the summer of 1921, Baku was declared a free port.

**ARMIES.** See MILITARY PROGRESS.

**ARSENIC.** In 1925 the white arsenic (refined and unrefined) produced in the United States amounted to 12,317 short tons, valued at \$1,193,039, as compared with 14,453 tons, valued at \$2,655,015 in 1924. In 1925 arsenic compounds imported for consumption in the United States were as follows: Arsenic or arsenious acid, 9316 short tons, valued at \$1,076,073; arsenic sulphide (realgar and orpiment), 476 short tons, valued at \$63,296; sheep dip to the amount of



73,477 pounds, valued at \$4953; and Paris green and London purple amounting to 2880 pounds, valued at \$702. There were also 59,112 pounds of "acid," valued at \$2676; 149,018 pounds of "metallic arsenic," \$31,918; 10,467 pounds of "lead arsenate," \$1514; and 1074 pounds of "calcium arsenate," \$135.

In 1926 the United States production of arsenic was estimated at about 5700 tons and the imports at 7600. The consumption for the calendar year was slightly over 21,000 tons, the estimated stock at the beginning of the year being about 9800 tons and at the end of the year 4400. The price fell during the year to three cents a pound or lower, there having been a gradual decline from early in 1924. The imports in 1926 came very largely from Canada and Mexico and consisted of by-product arsenic, while Japan, Germany, Belgium, and Greece, which previously were large exporters to the United States when prices were high, were practically missing on the list of imports.

**ART EXHIBITIONS.** An interesting feature developed in the public display of paintings during the year 1926 was that of "Loan Exhibitions," which were held increasingly in museums and in the well-appointed galleries of dealers. The paintings were obtained from the great private collections, through the kindness and generosity of their owners. Exhibitions of rare antiques, potteries, sculpture, glasses, oriental rugs, tapestries, textiles and embroideries increased in number, showing a growing knowledge and the deeper interest taken in these artistic developments of past ages. Memorial exhibitions were held of the works of Ben Foster; J. Stewart Barney; Mary Cassatt; Claude Monet; John Quinn; and John Singer Sargent; the latter consisting of 60 paintings and as many water colors, was held in the Metropolitan Museum of Art.

Interesting "one-man" displays were those of Foujita, a Japanese artist from Paris; Marc Chagall and Alexander Archipenko, Russian artists; a first comprehensive display of sculpture of Aristide Maillol; the sculpture of Brancusi; of Maurice Sterne, both sculpture and painting; Eugene Speidaer; Leon Kroll; George Luks; and the sculpture of Robert Laurent. Numerous group exhibitions were held in galleries of semi-public character, such as: the Whitney Studio Club; the Société Anonyme; the Civic Club of New York; the Art Club of Chicago. The annual exhibitions of summer art colonies and the various art societies were held as usual.

Among the latter should be especially mentioned the New Society; the Allied Artists of America; the New York Water Color Society; the National Association of Women Painters and Sculptors; the Salons of America; the Tri-National Exhibition, held for the first time this year in New York City and important European centres; the Independent Society, the largest no-jury exhibition held in America, with several thousand exhibitors from all over the country; and the other no-jury exhibitions held in Buffalo, Chicago and Boston.

The Corcoran Gallery of Art, Washington, held this year its Tenth Biennial Exhibition of Contemporary American Oil Paintings. The prizes for this exhibition were donated by the late Sen. William A. Clark and are always much sought after. The group of artists who

served this year as a jury of selection and award were: Edmund C. Tarbell, John C. Johansen, Jonas Lie, Leopold Seyffert and Robert Spencer. The first prize of \$2000, and gold medal was awarded to Charles A. Hawthorne for his "The Fish and the Man," a characteristic work, solid and impressive; W. Elmer Schofield won the second prize of \$1500 and silver medal with his "Little Harbor," a successful presentation of land and water, skillfully composed and full of light and sunshine; A nude, by Adolph Borie, softly and charmingly portrayed, was the recipient of the third prize of \$1000 and a bronze medal and the 4th prize of \$500 went to Abram Poole for a group portrait painting entitled "Spanish Sisters." The exhibition is perhaps the most representative one of present-day American paintings held in the United States and the calibre of the work hung is pre-eminently high.

Among the interesting exhibitions of old masters held in various New York galleries were: two exhibitions of early Venetians of superb quality; a group of Fragonards, the first seen in a long time in America; the first exhibition of the work of Chardin ever seen in America, remarkably fine; a group of drawings by old masters; and a beautiful exhibition of paintings "Childhood in Art." Other interesting exhibitions were: the Arthur Davies Collection of modern French masters; the two loan collections of 18th century French masters, and of Dutch, Flemish, and Italian masters held in the Detroit Art Institute; the Lea Collection of Old Masters at the Pennsylvania Academy; an exhibition of paintings, old and modern masters, forming the collection of the late John D. McIlhenny, former president of the Pennsylvania Academy; an immense exhibition in the Brooklyn Institute Museum of modern European painting; and a fine collection of early American portraits at the Century Association, New York City. In the Metropolitan Museum was shown a selection of modern decorative art objects from the International Exposition in Paris. The International Society of Etchers held their annual exhibition in the Brooklyn Institute Museum; the International Water-Color Exhibition was held in Chicago.

**EUROPEAN EXHIBITIONS.** Art exhibitions of note in Europe included: in Paris the Salon d'Automne with 4000 exhibits, and the Society of Independents, with 200 exhibits. An important retrospective exhibition of Flemish landscape painting of the 16th, 17th, and 18th centuries, was held in Brussels; the first comprehensive exhibition of the work of Zuloaga ever held in Spain, celebrated the opening of a palatial Fine Arts Building in Madrid; an exhibition of modern Dutch painting was held in the Jeu de Paume, Paris. In London occurred the installation of the new wing of the Tate Gallery, donated by Sir Joseph Duveen, and opened personally by King George. Important examples of modern art, particularly those of representative French masters, purchased through the Courtauld Fund were on display. The Scottish Royal Academy celebrated its centenary, and the Royal Academy opened with an exhibition of over 600 paintings, of which the majority were portrait compositions. During the year a superb collection of Claude Lorraine drawings were shown at the British Museum. In Toronto, Canada, a new Art Gallery

was opened with a fine exhibition of old and modern paintings loaned from the collections of museums and art dealers in the United States, and from the National Museum and private collections in Canada.

**PENNSYLVANIA ACADEMY.** The 121st exhibition of the Pennsylvania Academy of Fine Arts opened with an excellent display, unusually well-hung, and with the sculptural sections more noteworthy and interesting than perhaps ever before. In 1925 the great preponderance of paintings were landscape, in 1926 figure and portrait pieces were most in evidence. The coveted Temple Gold medal, awarded to the best painting in the exhibition, went to Hayley Lever for "The Harbor," a Gloucester scene, full of color and sparkle. "Narcissus," a delightful figure study by Adolph Weinman, received the Widener medal for the best sculpture. The Sesnan Prize for the best landscape was awarded to Charles Rosen for his "Group of Houses," a well-constructed problem in angles and uprights. Other prize winners were: Robert Vonnoh, the Lippincott Prize, for "Leah" a figure study; Alice Kent Stoddard, the Beck gold medal, for a portrait "Miss S.," very agreeable in color and composition; and Miss Wenonah Bell, the Mary Smith Prize, for the best painting by a Philadelphia woman, for her charming "Still-Life." "The Sledding Party," by Carl Lawless, was sold on the opening day. Robert Henri, Leopold Seyffert, Ernest Epstein, Richard S. Meryman, and Robert Susan contributed interesting portraits. In the big Gallery F., landscapes by Robert Spencer, Edward Redfield, Gifford Beal, Morris Hall Panoast, Joseph Pearson, and Walter Ufer presented a brave array. The bronze bust of John F. Braun, the latest work by Charles Grafty, splendidly modeled and characterized, was one of the finest efforts in the exhibition. Other sculptors represented were Alfred Lessle, Frederick Roth, John L. Clarke, Walter Hancock, C. P. Jennewein, Edmond Quinn, and Benjamin T. Kurtz, a new comer, who exhibited several African subjects.

**ARCHITECTURAL LEAGUE.** The 41st annual exhibition of the Architectural League of New York took place in the Fine Arts building with a display of more than 1000 listed objects. The big Vanderbilt Gallery contained the main exhibits in mural painting, and sculpture. The development of the American skyscraper was shown in models and drawings of every conceivable kind. The plans for the Arlington Memorial bridge by McKim, Mead and White formed an interesting exhibit; as also a series of elaborate drawings for the restoration of King Solomon's Temple, executed by Helmle and Corbett for Dr. John Kelchner. Two special medals, the Henry O. Avery Prize for sculpture, and the Michael Friedsam medal for unusual achievement in the encouragement of art in industry, were awarded to Benjamin Kurtz for his exhibit "Duck," and Harry Wearne, president of the Art-in-Trades Club, for his influence in promoting good design in industrial art. The medal in sculpture was awarded to Charles Keck for his Montclair, N. J., war memorial, a heroic figure, "Victory." The firm of John Mead Howells and Raymond M. Hood, of New York City, received the medal for architecture for the design of the Chicago Tribune Building, a model of which was among the exhibits. The award for conspicuous achievement in mural painting went to George Davidson for his panel "Commerce."

Miss Sarah Cooper Hewitt, and, posthumously, her sister, Miss Eleanor Gurnee Hewitt, were awarded the President's medal, designed by Daniel Chester French, for their services in the upbuilding of the Cooper Institute and its Museum.

**NATIONAL ACADEMY, SPRING.** The 101st annual exhibition of the National Academy presented its usual appearance of a well-chosen, seriously-painted array of, for the most part, paintings with an academic trend. The number of prizes given, eighteen in all, was the largest in its history. Childe Hassam, N.A., was awarded for the second successive year the first Altman prize for the best landscape painting. The picture entitled "The Flight into Egypt," represented Mr. Hassam's flight into the realm of religious painting, and displayed his well-known mastery of color and design in the impressionistic technique. "Southegan Hills," a breezy, well-constructed landscape by Roy Brown, carried off the second Altman prize. The first and second Altman figure prizes were awarded to: Carl Anderson for a portrait study, delicate and refined in handling; Walter Ufer of Taos for a typical New Mexico subject shining in the brightest and crispest sunlight, entitled "Luncheon at Lone Locust." A delightful figure composition "The Pink Kimono," by J. W. Schlaikja, received the first Hallgarten prize. The second and third Hallgarten prizes went to: J. H. Connaway for "The Giant"; and Carl W. Peters for "From a Window," a pleasing rendition of an interior and exterior effect. A landscape, "Grey Day," tonal in character, earned for Antonio Martino the J. Francis Murphy memorial prize; "Passing By," by Martin Hennings, received the Isidor gold medal. An interesting canvas entitled "At Work," in subdued grays and blacks by Kyohel Inukai, a Japanese artist, was awarded the Maynard portrait prize; the Thomas B. Clarke prize was won by Will Foster for his indoor figure composition entitled "In the Music-Room." The Carnegie prize for the most meritorious landscape in the exhibition went to W. Granville Smith, N.A., for "South Haven Mill," a freshly-colored and competently executed canvass. Charles Hawthorne received the Proctor portrait prize for "The First Mate," a rendition already familiar to the exhibition galleries; to Miss Hilda Belcher went the Julia A. Shaw memorial prize for "Scarlet and Blue," a figure composition, sensitively handled. The sculpture exhibit was small and not particularly noteworthy. "Portrait" by Cesare Stea was awarded the Helen Foster Barnett Prize; and "Rising Sea Mists," a symbolical figure, by Chester Beach, N.A., received the Elizabeth Watrous gold medal. The Saltus medal and the Ellin P. Speyer memorial prize were given to the brothers, Attilio and Horatio Piccirilli, for compositions called "Un Sogno di Primavera," and "Black Eagle."

**NATIONAL ACADEMY, WINTER.** This exhibition omitted in 1925 because of the Centennial Exhibition, was again resumed, but without any undue excitement in the way of new and stimulating exhibits. On the contrary, the display on the whole, smaller than usual, attractively and carefully hung, with several striking canvases in the big Vanderbilt Room, presented nevertheless a somewhat lifeless and inert appearance. The prize winners were all familiar names and their work lacked further development. A large

canvas, "The Hills of Barrington," by Chauncey F. Ryder, possessed the impetus and freshness of the wide out-of-doors, which was stimulating to the beholder. A careful still life by Frank Benson, and a rather heavy bit, "The Fish, the Bottle and the Boy," by Charles Hawthorne, were noteworthy. Figure and portrait compositions predominated, but none was of any outstanding importance.

The sculpture exhibit was small and inconspicuous. The prizes in sculpture were awarded to: Karl H. Gruppe, the Helen Foster Barnett prize for "La Joie"; Evelyn B. Longman, the Julia Shaw Memorial prize for a careful bronze portrait of Ivan Olinsky, N.A.; and Hilda Kristina Gustafson-Lascari, the Elizabeth Watrous gold medal for a rather timidly executed female figure entitled "The Awakening."

The two Altman prizes, the most sought-after awards in the Academy shows, were awarded to Wayman Adams, N.A., for his "108 West 57th Street," a figure composition of the art dealers, the brothers Milch; and Oscar E. Berninghaus, A.N.A., for "A Hunter of Taos," a decorative effort with an Indian in a conventional pose. Walter Ufer, N.A., also of Taos, received the laidor medal for "The Discussion," a canvas rendered in his familiar, clean cut and decisive manner. John F. Folinsbee, A.N.A., won the J. Francis Murphy Memorial Prize with a landscape "Bourre," a French scene pleasingly rendered; and Henry Rittenberg, A.N.A., received the Thomas R. Proctor Prize for a portrait of Miss Marjorie Jay Daingerfield.

CARNEGIE INSTITUTE, PITTSBURGH. The twenty-fifth international exhibition opened with 372 paintings, of which 266 were from Europe and 106 from America. France, Italy and Great Britain were the largest contributors from abroad. Giovanni Romagnoli, one of the most distinguished painters of Italy today, was awarded the honor and distinction this year of a one-man show. A jury of six artists, composed of Pierre Bonnard, well-known French painter, Giovanni Romagnoli, mentioned above, Charles Sims, British portrait painter, Charles W. Hawthorne, Howard Giles and Gifford Beal, well-known American artists, together with Homer St. Gaudens, Director of Fine Arts at the Carnegie Institute, awarded the prizes. A group of the European paintings was afterwards shown in other cities. This exhibition is the only yearly international one in the world, and a special effort was made this year to have not only the different nations exhibit, but also to obtain a clear idea of the various tendencies displayed in the present artistic development of each nation.

The first prize (\$1500), was awarded to Ferruccio Ferrazzi, a young Italian painter, for an interior with two figures, a mother and child, entitled "Iloratia and Fabiola." The composition was an unusual one, the mother, a curiously elongated figure, was depicted leading the child vivaciously from one room into the adjoining one, the whole presenting a naïve and pleasing impression. K. X. Roussel, the veteran and well-known French painter, was awarded the second prize (\$1000) for a characteristic landscape with faun and nymph, rich and glowing with color. The third prize was awarded to Robert Spencer, American painter, and member of the National Academy, the canvas entitled "Mountebanks and Thieves" representing one of his fa-

vorite subjects, a group of houses with various people in interesting movement in the foreground. The Honorable Mentions, the first of which carried a prize of \$300, went to Max Kuehne and John Carroll, Americans; Dod Proctor (Mrs. Ernest Proctor), British; and Antoine Faistauer, an Austrian. The special prize of \$500, offered for the second time this year, by the Garden Club of Allegheny County was awarded to Walter Sickert, the English artist.

ART INSTITUTE, CHICAGO. The 39th annual Exhibition of American Paintings and Sculpture opened with 219 paintings and 62 pieces of sculpture, figure paintings and portraits predominating. The increase in ambitious portrait paintings was due probably to the Logan Prize of \$1000 for the best portrait, awarded for the second time this year, and won by Charles Hopkinson for his "Family Group," a portrait of himself, his wife and five attractive daughters. The Logan medal and prize of \$1500, was awarded to George Luks for a spirited rendition of a young man playing the accordion, his mouth wide open as if to sing. The Potter Palmer gold medal was awarded to Eugene Speicher for his ambitious nude exhibited in his one-man exhibition in New York last year. Benjamin Kurtz, a new comer, received the Keith Spalding Prize of \$1000 for the best sculpture executed in the last five years, a boldly executed "Mask of a Nubian Girl." The French Memorial gold medal for a piece of sculpture or a painting by a student or former student of the Art Institute, was awarded to John Davis Brein for his bas-relief "Romanza." Other prize winners were: Clifford Addams, a portrait study of a young girl in black entitled "Bohemienne," the Norman Waite Harris silver medal and prize of \$500; John W. Norton, the second Norman Waite Harris medal and prize, for a painting of a half-length reclining nude figure of a young girl; Elizabeth Sparhawk Jones, the M. V. Kohlstaam Prize for her interesting painting, "The Resting Wood-Cutters"; James Copping, the Martin B. Cahn Prize for the best oil painting by a Chicago artist, a rural landscape, "The Old Barn"; Charence R. John, the Augustus Peabody prize, for an enterprising landscape entitled, "Lumberville, Buck County, Pa." Honorable mention was awarded to Carl Wuerner, Kenneth Bates, Ivan Albright and Robert K. Ryland. The paintings were beautifully hung and the various galleries presented a most ingratiating appearance. The opening day had its accustomed number of admiring throngs.

ARTIFICIAL SILK. See RAYON.

ARTILLERY. See MILITARY PROGRESS.

ART INSTITUTE, CHICAGO. See ART EXHIBITIONS.

ART MUSEUMS. New museums with generous endowment funds continued to increase with amazing rapidity in the United States. Almost every city of any size in the South, East, West or North, was able to boast a museum, with constantly growing collections. A new wing was completed and opened to the public by the Metropolitan Museum of Art in New York City. This new wing "K," contains collections of Greek and Roman art objects, beautifully arranged, and a Roman court with garden, decorated with sculpture, with painted Pompeian red walls, green plants and a central fountain. Acquisitions to the various collections of

the Museum included: the Henry G. Keasebey Collection of arms and armor; a fine basalt statue to the Egyptian department; a large Chinese bronze statue of the Wei dynasty; the St. Gaudens mantel from the Cornelius Vanderbilt residence; a small self-portrait by Gilbert Stuart; a rare example of early Flemish painting, a "Pieta," by the "Master of the Virgin among the Virgins"; a portrait by Adrian Brouwer, Flemish master of the 17th century. The department of furniture and decorative arts was enriched by a fine Renaissance armoire, dated 1553. A miniature portrait by Hans Holbein of Thomas Wriothesley, first Earl of Southampton, was an important purchase. A number of objects of decorative art were added to the various departments, as also some interesting additions to the Print Department.

Gifts and purchases announced by the Detroit Institute of Fine Arts included a small circular portrait of very fine quality by Hans Holbein; an early Flemish landscape by the unknown "Master of the Lucia Legend"; a beautiful "Crucifixion" by Barent van Orley; a "Mystic Marriage of St. Catherine" by Correggio, a gift; a landscape by Jacob Ruysdael; a canvas by the late Max Bohm, American painter; and a collection of Romanesque art, comprising a sarcophagus, and a number of architectural fragments. To the collections of the St. Louis Museum were added: the Ellis Wainwright Collection of bronzes and paintings, with examples of the Barbizon school and sculptures by Barye; 118 pieces of porcelains from the Alfred D. Pell Collection, both bequests. The Boston Museum of Fine Arts acquired by purchase, an unusual "St. Jerome" attributed to Carpaccio and an "Adoration of the Magi" by Tintoretto. The Rhode Island School of Design Museum purchased a beautiful "Aphrodite," Greek, 2nd century; and the Cleveland Museum obtained by purchase, a Cranach print, and by gift, a "Holy Family" by El Greco. The National Gallery, Washington, had its collection enriched by the addition of quite a number of fine early American portraits to be known as the "George Buchanan Coale Collection." The Pennsylvania Museum acquired by purchase a superb tapestry of early Flemish Renaissance and also an interesting Gothic tapestry, a gift. The Art Institute of Chicago announced the bequest of 22 paintings—Dutch, Flemish and Barbizon masters, from the estate of the late Charles L. Hutcheson, former president of the Institute. A group of modern American and French paintings was added to the permanent collection of the Brooklyn Institute Museum, also "The Awakening," a heroic bronze by Maurice Sterne; and a completely equipped Swiss Gothic interior, dated 1517, discovered recently in the Engadine. All these acquisitions were gifts. A new Museum was opened in Providence, Rhode Island, and a new wing added to the Cincinnati Museum, the gift of Mrs. Mary M. Emery, to house the collection already donated by her. The Minneapolis Institute of Fine Arts purchased a striking sculpture "Crouching Lion," Greek B.C. 380; and announced the addition of a new wing, provided for by popular subscription.

An Art Museum was provided for Yale University by an anonymous gift of one million dollars. The Yale School of Fine Arts also announced an appropriation of \$150,000 from

the Carnegie Corporation for the founding of a professorship in the history of art. Other gifts were: the Gutenberg Bible, Melk edition, a gift of Mrs. Edward S. Harkness; the famous group of English Chinoiserie tapestries, once the property of Elihu Yale, the founder of the University, the gift of Mr. Edward S. Harkness; and mural paintings, marbles, and other objects of art from the Huntington residence, the gift of Mr. A. M. Huntington.

A number of fine 18th century masters was added to the collection of the Carnegie Art Institute, Pittsburgh, together with 130 line engravings by Charles Mellan, 18th century, both gifts. The Wallace Nutting Collection of early New England furniture was presented to the Wadsworth Athenaeum, Hartford, Conn., by J. P. Morgan. Others of the smaller museums which added substantially to their collections were: Denver, Colorado; Newark, New Jersey; San Diego, California; Dallas, Texas; and Toledo, Ohio. The last named, through the perpetual endowment fund established by the will of Mrs. W. E. Libbey, became one of the most heavily endowed museums in America.

**ART SALES.** The outstanding event of the year was undoubtedly the sale of the collection of the late Lord Leverhulme, which took place early in the year in New York. The dispersal of this colossal collection required a series of seven distinct and separate catalogues and nineteen auction sessions. The furniture, tapestries, rugs, bronzes, etc., required alone nine sessions. The furniture, principally 18th century English, was the most comprehensive and beautiful ever before viewed in America. Other sections were composed of porcelains, English and Chinese, original drawings and prints, water colors, rare books, and paintings, the latter principally 19th century English, including fine examples of the Pre-Raphaelite masters.

Second in importance and especially in the spectacular prices which were obtained, was the sale of the famous Michelham Collection of 18th century English paintings, furniture, porcelains, tapestries and objects of art, dispersed at auction in London. The paintings were of foremost calibre and brought correspondingly high prices. "Pinkie" by Thomas Lawrence, a beautiful full length portrait of a young girl posed against a summer sky was obtained by a New York dealer for an American collector at the record breaking price of \$377,000, the highest sum ever paid for a painting at auction. "Master Heathcote" by Thomas Gainsborough was secured by the same dealer, and the beautiful full length "Portrait of Lady de la Pole," by George Romney, was acquired for the collection of Governor Fuller of Massachusetts, who also bought the "Caller Herring Girl" by Millais, an outstanding picture of the Leverhulme Sale. Other important sales in the United States were: the A. G. Huntington Collection of English color prints and engravings; the Huntington collection of paintings with examples from Dutch, South German, early Flemish, Barbizon and modern French schools; the Goldblatt Collection of paintings, including the famous "On the River Stour," by Constable, dispersed in Chicago; a selection of paintings of the Dutch, English and Barbizon schools from the collection of the late Senator W. A. Clark; the C. G. K. Billings collection of exceptionally fine examples of the Barbizon School, and the famous "Willow Tree" by "Old"

Crome, which was acquired by the Independent Gallery of the city of Norwich, England, the artist's birthplace; the Samuel T. Shaw Collection of American Paintings; the collection of Mr. Vincent Astor; the Tolentino Collection of Italian Renaissance art, paintings, sculpture, and tapestries; the Benguiat Collection of Oriental Rugs, containing some superb Persian examples; a selection of paintings from the collection of Scott and Fowles, art dealers in New York; the Arlington Art Gallery Collection of paintings; and a unique number of Gothic tapestries known as the Kermaingant Collection.

Outstanding single sales included: the bust portrait of Mrs. Davenport by Romney, acquired at auction in London by a New York dealer for \$300,000, a top-notch price; a fine "Portrait of a Nobleman," sold to a private collector in America; an example of a very rare French primitive, Jean Bellegambe, "Conversion of Saint Paul," acquired in a Paris auction by a New York dealer; the discovery and purchase for an American private collection of the 40th known painting by Vermeer van Delft. Twelve of the forty are already in the United States; a portrait group, "Uncle and Niece" by Degas, acquired for a private collector; "L'Arlésienne" one of Van Gogh's finest efforts, acquired by Mr. Adolph Lewisohn; a beautiful example of the rare master, Roger van der Weyden, "Portrait of a Lady," from the Duke of Anhalt's Collection, Germany, acquired by a New York dealer. The Curtis Collection of 18th century paintings was enriched by two fine portraits, a Hoppner and a Thomas Beechey. The last important auction of the season was the famous Chiesa Collection of Italian paintings, sculptures, terracottas and majolica ware. Among the paintings were examples by Orcagna, Daddi, Antonella da Messina, Lotto and Roger van der Weyden. The Gutenberg Bible, Melk edition, was sold at auction for the record breaking price of \$106,000. In Amsterdam occurred the second and third sales of the important Castiglione Collections of paintings, of old masters, sculpture, furniture, and objects of art; the superb collection of drawings from the de Robiano Collections, with examples by Michael Angelo, Rubens, Dürer, Rembrandt and Breughel, a collection of Dutch and Flemish paintings, and the Dietal Collection of Barbizon masters.

Important auction sales in Paris were: the Warneck Collection of early Dutch and Flemish masterpieces; the Dutasta Collection of 18th century French objects of art of highest quality; the Pierre Decourcelles Collection of modern paintings, with fine examples of Toulouse-Lautrec. In London, besides those already mentioned occurred: the H. L. Bischoffsheim Collection of English 18th century portraits and the famous portrait of Elizabeth, Queen of Spain, by Sir Antonio Mor; the dispersal by auction of the furnishings and paintings of the historic Netherby Hall, Cumberland; the Brölemann Collection of early illuminated manuscripts; the collection of Lord Carmichael, of old masters; the Carlisle Collection of English paintings of the 18th century; and the remainder of the collections of the late Lord Leverhulme.

**ASBESTOS.** The asbestos production of the world in 1925 was estimated at 330,892 long tons as compared with 256,438 long tons in 1924. The chrysotile, or long-fibre asbestos used in spinning, is derived in large measure from Can-

ada and South Africa; while the short-fibre amphibole is found in Australia, India, Russia, and the United States. The world's production of unmanufactured asbestos in the years 1925 and 1924 is given in the accompanying table:

WORLD PRODUCTION OF UNMANUFACTURED ASBESTOS  
[In long tons]

Country	1924	1925
Canada .....	208,762	273,522
South Africa:		
Rhodesia .....	26,141	34,349
Union of South Africa .....	6,464	9,078
Cyprus .....	3,904	(*)
Russia .....	8,331	10,000
Italy .....	2,126	2,490
India .....	125.8	(*)
Australia .....	78	(*)
China .....	239	330
United States .....	268	1,123

\* Figures not available.

Prior to the World War the asbestos mines of Russia produced a large percentage of the world's supply and in 1926 they were said to be assuming their pre-war output. In the United States the output of unmanufactured asbestos in 1925 was 1258 short tons, valued at \$51,700, consisting of 93 tons of chrysotile mined in Arizona and California, and 1165 tons of amphibole mined in Georgia, Idaho, and Maryland. In 1924 the production was 300 short tons, valued at \$42,526. The imports in 1924 and 1925 were 183,250 short tons valued at \$5,602,945 and 230,520 short tons valued at \$7,134,302 respectively.

**ASIA.** See CHINA, JAPAN, and the other articles on the subdivisions of the continent. See also the articles on ARCHEOLOGY and EXPLORATION.

**ASIR.** See ARABIA.

**ASPHALT.** The native asphalt and related bitumens produced in the United States and sold at the mines in 1925 amounted to 584,850 short tons, valued at \$4,148,400. The asphalt manufactured in the United States from petroleum and sold at refineries in 1925 included that produced from both domestic and foreign petroleum. From domestic petroleum 1,206,700 short tons, valued at \$15,305,760, were manufactured, and from foreign petroleum 1,971,670 tons, valued at \$27,520,010. In 1925 the crude asphalt imported for consumption in the United States amounted to 113,384 tons, valued at \$823,165, while the ozokerite amounted to 3088 tons, valued at \$361,767. Ichthyol to the amount of 560 pounds, valued at \$1281, and bituminous limestone amounting to 8778 tons, valued at \$84,259, all helped to swell the total, which amounted to \$1,270,472 in value. The native asphalt and related bitumens exported from the United States amounted in value to \$3,351,271, consisting of 32,835 short tons of unmanufactured material valued at \$825,654, and manufactures, including squares of roofing asphalt, at \$2,525,618. In 1925 there were exported 89,014 short tons of petroleum asphalt, valued at \$1,762,048.

**ASTRONOMY.** The well known giant and dwarf theory of stellar evolution was largely based upon, and served to explain, the fact that if the stars be classified according to *absolute magnitude* and *spectral type*, they fall into three groups: (1) The "main sequence," running continuously from intensely luminous O type

stars to faint M Stars, which includes all ordinary dwarfs as well as most O, B, and A stars, and in which luminosity decreases rapidly with increasing redness; (2) the "giant stars," fairly widely scattered, yet showing comparatively little variation in absolute magnitude with spectral type, which form a side group that joins the main sequence near type F, but which does not link on continuously—scarcely any giants of type F exist (such as do occur mostly being unusually luminous and massive), as if this stage were rushed through rapidly after a temporary halt in the giant M, K, and G stages; (3) the "white dwarfs," faint and hot, of low luminosity but high surface temperature, of which comparatively few have yet been discovered, but which must actually exist in space in enormous numbers.

However, it has been found that because of the excessive degree of ionization of the atoms in the intensely hot interiors of the stars, the dwarfs as well as the giants obey the laws of perfect gases and are in radiative equilibrium, and this discovery shows that the evolutionary progress of a star through the above groups, if such occurs at all, cannot be due to the cause assigned by the giant and dwarf hypothesis; the low surface temperatures of the dwarfs, e.g. must be due to increased opacity rather than to lower temperatures as a whole.

Reconstruction of the theory of stellar evolution is to be based upon the knowledge of physical conditions and internal construction of the stars that has been made possible by modern atomic physics. The outstanding problem of the physics of the stars is that of the source of stellar energy; whatever this source, it must, as a great mass of geological and astronomical evidence indicates, provide a time scale that will allow at least  $10^9$  years for the life of the sun, and it must liberate heat deep in the interior so that the temperature gradient necessary to prevent the gravitating mass from collapsing will be kept up. The law of generation of internal heat in a star, together with the rate of escape of heat to space, will determine how bright and hot a star of a given size and mass will be; the rate of escape is determined by the opacity and the temperature gradient, and the latter may be calculated from physical theory. Russell finds that neither the distribution of density in a star, nor the distribution of the source of energy, will have much effect on the rate of escape of heat. Stars of the same mass are found by observation all to be about equally bright, regardless of size and spectral type; but different investigators disagree as to the physical explanation of this phenomenon. However, it is now generally agreed that the only source of energy which will provide an adequate time scale, and which will allow the mass of a star to change as the star evolves so as to satisfy the mass-luminosity law, is the actual annihilation of matter and its transformation into an equivalent amount of radiant energy; the exact mechanism of this process is uncertain, but the transformation may come about as the result of the mutual annihilation of an electron and a proton, with the resultant production of a "splash" of radiant energy of exceedingly short wave length that by subsequent interaction with the material of the interior of the star is soon transformed into ordinary temperature radiation; possibly the escape of some of the short

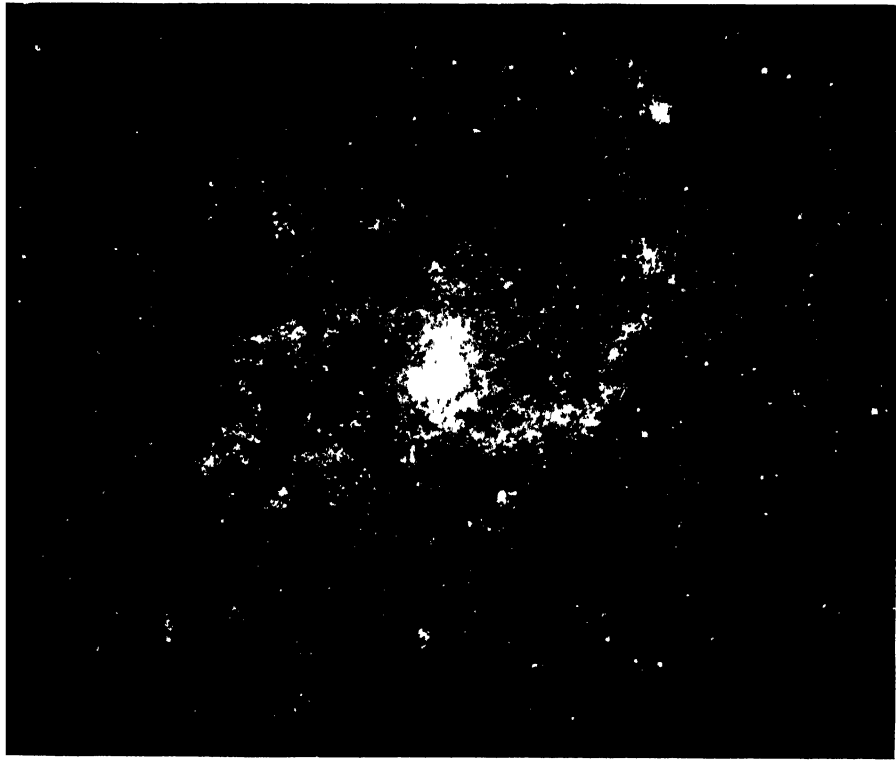
wave rays from tenuous nebulae may be one source of the penetrating cosmic rays observed by Millikan.

The first stage in the history of a star that can now be visualized is that of a large sphere of very rarefied gas, with a central temperature of a few hundred thousand degrees. Losing heat (and also mass) by radiation, the star contracts, at first very rapidly, drawing upon its gravitational energy, and rising in temperature. Now, according to Russell and Eddington, when the central temperature reaches some critical value, probably less than a million degrees, the degradation of some form of matter, either wholly into energy or into some less massive form with emission of energy, begins; some very active, but soon exhausted, supply of energy is tapped at first, during the giant stage.

The rate of evolution depends on the rapidity of exhaustion of the transformable material; as the latter is used up at the centre, the star slowly contracts, the temperature rises to keep up the liberation of heat, and new regions nearer the surface become the main seat of the transformation. The rate of transformation is assumed to increase with temperature, and several forms of matter are supposed to be present, each form beginning to be transformed into energy in large amounts at a different "critical temperature." All the stars of the main sequence have approximately the same central temperature (30 or 40 million degrees), as may be computed from physical theory, and Russell supposes that in the neighborhood of this temperature the rate of transmutation of matter into energy increases very rapidly, the principal supply of energy then becoming available through the annihilation of the main mass of the star; a higher central temperature would cause heat to be generated faster than it could escape, so that the star would expand and cool again. Hence, when the above central temperature is reached, the star goes down the main sequence, steadily decreasing in mass and in luminosity, gradually growing denser and more opaque; the surface temperature rises during the giant stage, then falls along the main sequence, but the internal temperature does not fall; the giants are cooler than the dwarfs inside, while the white dwarfs are still hotter.

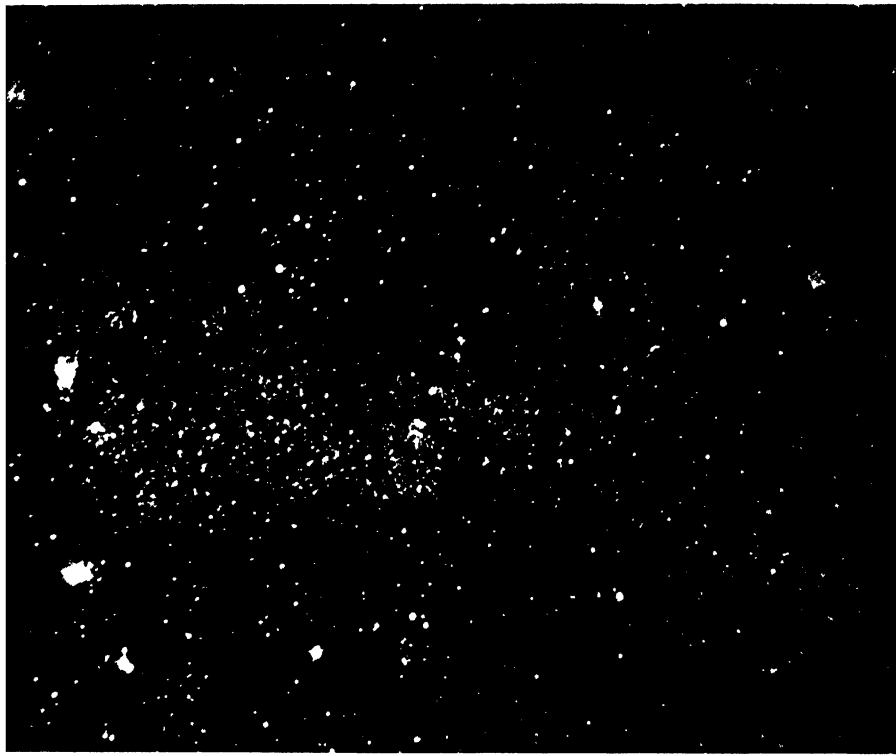
Eddington suggests that perhaps at the central temperature of the main sequence, energy issues from matter like steam from water at  $100^\circ\text{C}$ .; when the main constituents become exhausted, however, there must still remain an unburnt residuum of more refractory material, immune to transformation even at 30 million degrees, and this passes on to the fiercer ordeal of the white dwarf stage. The final stage of all is uncertain.

On the other hand, Jeans maintains that if an increase of temperature resulted in an increased rate of generation of energy, the stars would be unstable; besides, stellar temperatures are not high enough perceptibly to influence subatomic processes. He supposes different types of matter to transform spontaneously at different, but constant, rates; the most active would of course be first exhausted, so that young stars, having more of the most active types of material, would emit more radiation per unit mass than would older stars, as they are observed to do. A star would be born as a supergiant, of density about  $10^{-7}$  probably with a surface tem-



*Courtesy of the Mount Wilson Observatory*

THE SPIRAL NEBULA MESSIER 33 IN TRIANGULUM. EXPOSURE EIGHT HOURS 30 MINUTES. THE ORIGINAL NEGATIVE WAS MADE WITH LIGHT THAT HAD LEFT THIS REMOTE STELLAR SYSTEM 850,000 YEARS PREVIOUSLY



*Courtesy of the Mount Wilson Observatory*

# ISLAND UNIVERSES

THE STAR CLOUD N. G. C. 6822 IN SAGITTARIUS LIGHT, TRAVELING AT A SPEED THAT WOULD GIRDL THE EARTH SEVEN AND A HALF TIMES IN ONE SECOND, REQUIRES 700,000 YEARS TO REACH US FROM THIS SYSTEM





perature too low for visibility, and possibly as a long-period variable undergoing violent pulsations such as are conjectured to exist in Betelgeuse; the tendency to develop such pulsations determines the low-temperature limit of existence for red giants of low density and great size.

The composition of the star as regards actively transforming constituents would determine the rate of emission of energy and of loss of mass. To be in equilibrium the star would have to adjust itself so that a certain mathematical relation between absolute magnitude, surface temperature, and mass would always be satisfied. It would first travel along the giant sequence, the temperature rising, and more and more of the material becoming highly ionized; but as the extent of ionization increased, the rate of generation of energy would decrease (bare nuclei apparently being incapable of transformation into energy), and before 100% ionization was reached a state of equilibrium would be attained in which the rate of generation of energy would be equal to the rate of radiation appropriate to the mass and spectral type; the star would now turn and go down the main sequence, decreasing in temperature. In time, as the amount of active material decreased, the generation of energy would get too small to supply the minimum possible loss by radiation, and the star would become unstable; it would then contract rapidly, drawing upon its gravitational potential energy, and stability would be regained only when the density became so high that the gas laws no longer held even for the ionized atoms; the star would now be a white dwarf of density about  $10^5$ . The above instability accounts for the gulf between the giants and dwarfs in the redder spectral classes.

According to Jeans, the bulk of the material in the interiors of the sun and the stars consists of elements of far higher atomic weight than any known on the earth, and it is these substances which are capable of transforming rapidly into energy and supplying the radiation of the stars; the terrestrial elements either do not transform at all, or only very slowly.

Unless a star had initially a very slow rotation, the acceleration of rotation that accompanied the contraction would cause fission into a binary, accompanied by a rise of surface temperature; the heavier component would appropriate the central portion of the original star where the heaviest elements, making up most of the active source of radiation, would be concentrated; this theory explains the early spectral types of spectroscopic binaries, and also accounts, e.g., for the unhappy state of the companion of Sirius, which, lacking energy-generating materials, was unable to make both ends meet in the matter of radiation, and became a white dwarf. Short-period and Cepheid variables may be stars in the process of breaking up into binaries.

**ISLAND UNIVERSES.** Our own stellar system, or galaxy, has been found to be not alone in space; beyond its confines, even as outlined by the globular clusters, are millions of other galaxies, many of which are comparable with our own universe. Hubble finds that nearly all the non-galactic nebulae fall into a regular sequence of forms ranging from small, compact, globular nebulae through flattened, expanded, elliptical forms, to closely-wound spirals, and finally widely open disc-shaped spirals with

arms which in some cases have been resolved into myriads of individual stars; this sequence conforms closely to that of Jeans' theories of cosmogony. The application of the period-luminosity relation to the Cepheid variables in the arms of Messier 33, together with a great deal of other corroborative evidence, has shown the distance of this system to be 850,000 light years, and its diameter 15,000 light years; the Andromeda nebula is similarly found to be 900,000 light years distant, and 45,000 in diameter.

A statistical study of the non-galactic nebulae shows them all to be of the same general order of absolute luminosity, with an average mass about 300,000,000 times that of the sun, and distributed rather uniformly in space. The mean absolute magnitude is about -15.0; this, with the apparent magnitude, permits an estimate to be made of the distances. The faintest nebulae that can be detected with the 100-inch telescope at Mount Wilson thus lie at an average distance of the order of 150,000,000 light years, and a sphere of this radius represents the region of space at present observable; objects at this distance are now being seen as they actually looked in past geological ages—events occurring in the heavens at the present time, though on their way to the earth and traveling with the speed of light, may not find man here to receive them when they arrive; however, with faster photographic plates and larger telescopes it will be possible to push the boundaries of the observable region of space back several times further, and with improvements believed to be practicable, to detect exceptionally brilliant nebulae at a distance of a thousand million light years, with light that started on its way when the earth itself was young.

**ASTROPHYSICS.** As an animalcule living in a drop of water might learn something of the laws of liquids by experimenting with his drop, but considerably more by observing the behavior of the torrents pouring over Niagara, so the physicist may learn much of the laws of matter and energy in his terrestrial laboratory, but incomparably more by observation of the Niagaras of the sky—the phenomena in cosmical laboratories of the stars, in which are involved stupendous amounts of energy and extreme conditions of temperature and pressure far surpassing anything attainable on the earth, and which take place through regions of space and intervals of time of incomprehensible magnitude. It is of considerable interest and importance that the laws found to hold in the narrow range of conditions obtaining in the laboratory are also valid under the conditions existing in, and throughout the lives of, the celestial bodies, needing only to be extended and supplemented but not rejected; and that the system of laws applying to bodies in the region near the earth also give every evidence of still holding good in the remote depths of the farthest observable reaches of space where lie the distant island universes.

**SUN.** Jeans has pointed out that since radiation possesses inertia, it carries momentum with it, and in passing through the stars produces effects of exactly the same nature as those due to molecular viscosity, but, in the gaseous stars, of much larger magnitude. This radiative viscosity is of importance in a number of astrophysical phenomena; among other things, it

affords a possible explanation of the equatorial acceleration of the sun.

The sign of the general magnetic field of the sun has remained the same through two reversals of the spot polarities; there is evidence, however, for a variation in the rate of rotation of the sun associated with the reversals.

Pettit at Mount Wilson has found large fluctuations in the amount of ultraviolet radiation emitted by the sun, the variations being directly correlated with spot activity. The Smithsonian Astrophysical Observatory, with the aid of a grant from the National Geographic Society, has established a new station on Mt. Brukkaros in Southwest Africa to obtain daily values of the solar constant. Stebbins with the photoelectric photometer has detected small irregular variations in the light of many stars, similar to those claimed by Abbot to exist in solar radiation.

No connection can be found between the polarities of spots, and the directions of whirl of the high-level vortices; the latter have a tendency to obey the same law that governs the rotation of terrestrial cyclones, and are undoubtedly hydrodynamic (not electromagnetic) in character, being induced by the spot vortex below; the origin of the latter and of its magnetic field must be in the interior of the sun. V. Bjerknes suggests the permanent existence of a sinuous sub-photospheric vortex which encircles the sun, and in places rises to the surface, penetrating into the solar atmosphere and showing two free ends that constitute a bipolar spot group; this internal vortex travels from high to low latitudes, then descends into the interior, while a second one, rotating in the opposite direction, rises to the surface in high latitudes to begin the new spot cycle.

**PLANETS.** Variations in the brightness of Jupiter's moons II, III, and IV show them to rotate on their axes in the same period that they revolve around their primary. Variations in the brightness of Uranus, associated with changes in the shape of the disk in different positions, indicate a polar compression of  $\frac{1}{10}$ . The unexplained portions of the fluctuations in the motions of the moon and other bodies apparently must be due to variations in the rate of rotation of the earth, which in turn can be brought about only by changes in the radius of the earth—oscillations of the whole crust, of amounts from several inches up to about 12 feet.

**ASTRONOMICAL PHENOMENA.** The total solar eclipse of January 14 was well observed in Sumatra. There was a great deal of activity on the sun during 1926, a number of naked eye spots appearing; several marked auroras and magnetic storms occurred as a result of solar conditions.

An unusually favorable opposition of Mars took place November 4.

Comet 1926a, a return of Tuttle, was discovered by Baade, at the Hamburg Observatory, Bergedorf, on January 12; 1926b, by Blathwayt at Braamfontein, January 16; 1926c, return of Kopff, by Wolf, July 13; 1926d, return of Finlay, by Stobbe at Bergedorf, August 3; 1926e, return of Giacobini-Zinner, by Schwassmann at Bergedorf, October 16; 1926f, by J. Comas Sola at Barcelona, November 5; 1926g, return of Neujmin 1916 II, by Neujmin (the original discoverer) at the Simais Observatory, November 5.

A suspected cometary object was seen by Wilk at Cracow, September 1. Enzor's comet, 1925f, became suddenly very faint in February, 1926; for a month its tail made an angle of  $80^\circ$  with the radius vector to the sun.

**NECROLOGY.** John Louis Emil Dreyer, the distinguished historian of astronomy, September 14; William Joseph Hussey of the University of Michigan, October 28; Herbert Alonzo Howe of the University of Denver, November 2. Biographical sketches will be found under their respective names.

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**ASTROPHYSICS.** See ASTRONOMY; PHYSICS.

**ATHLETICS, TRACK AND FIELD.** Many new stars appeared in track and field athletics during 1926 and several new world records were established. The most imposing performances were those of Dr. Otto Peltzer of Germany, who first amazed track enthusiasts by capturing the British half-mile championship in world record time of 1 minute, 51 $\frac{1}{2}$  seconds, thus bettering the standard of 1 minute, 52 $\frac{1}{4}$  seconds set in 1916 by J. E. (Ted) Meredith (U. S.). Peltzer next took the measure of Paavo Nurmi and Edwin Wide in a 1500-meter race, which was witnessed by a throng of 70,000 in Berlin, Germany. The very next day Wide, a Swedish schoolmaster, defeated Nurmi in a two-mile contest and established a world record of 9 minutes, 17 seconds for the event.

Charles Hoff of Norway was another European to distinguish himself during 1926. In the course of an American tour Hoff shattered pole-vault records with most consummate ease and scored triumphs over Harold Osborn and Emerson Norton, two American all-around champions. Unfortunately, as the result of allegations of irregularities in his expense money, Hoff turned professional and brought suit against the Amateur Athletic Union of America, charging conspiracy. This suit was eventually settled by the Amateur Athletic Union, but Hoff did not regain his amateur status.

Charles Paddock and Roland Locke, both of the United States, set new world sprint records, Paddock covering 100 yards in 9 $\frac{1}{10}$  seconds, and Locke negotiating the 220 yards in 20 $\frac{1}{10}$  seconds.

Many new champions were crowned in the national championships of the Amateur Athletic Union and they will form the nucleus of the United States team in the 1928 Olympics which are to be held at Amsterdam, Holland. Seven athletes lost the titles they had won in 1926, but F. Morgan Taylor in the 440-yard hurdles, De Hart Hubbard in the broad jump, Harold Osborn in the high jump and decathlon, Harry

Hinkel in the three-mile walk, Clarence Houser in the discus throw and Matt McGrath in the hammer throw all successfully defended their championships.

The A. A. U. title holders for 1926 follow: 100-yard dash, Charles Paddock, Hollywood A. C.; 220-yard dash, George Sharkey, Miami University, Oxford, Ohio; 440-yard run, Kenneth Kennedy, Illinois A. C.; 880-yard run, Alva Martin, Chicago A. A.; mile run, Lloyd Hahn, Boston A. A.; six-mile run, Philip Osif, Haskell Institute; 120-yard high hurdles, Leighton Dye, Hollywood A. C.; 220-yard hurdles, Kenneth Grubles, Hollywood A. C.; 440-yard hurdles, F. Morgan Taylor, Illinois A. C.; three-mile walk, Harry Hinkel, New York A. C.; running high jump, Harold Osborn, Illinois A. C.; sixteen-pound hammer throw, Matthew McGrath, New York A. C.; javelin throw, John Kuck, Kansas State Teachers' College; running broad jump, De Hart Hubbard, Century A. C.; sixteen-pound shot put, Herbert Schwarze, unattached, Chicago; pole vault, Paul Harrington, Boston A. A.; hop, step and jump, Levi Casey, Los Angeles A. C.; throwing 56-pound weight, Patrick McDonald, New York A. C.; discus throw, Clarence Houser, Hollywood A. C.; decathlon, Harold Osborn, Illinois A. C.; pentathlon, T. W. Dreves, New York A. C.; 7-mile walk, Harry Hinkel, New York A. C.; 880-yard relay, Newark A. C.; 2-mile relay, Boston A. A.; mile relay, Illinois, A. C.; 440-yard relay, Newark A. C.; 4-mile relay, Illinois A. C.

For the second successive year the University of Southern California won the Intercollegiate A. A. A. A. championship with a total of 35½ points. Stanford University finished second with 25½ points and Yale third with 25½ points. The individual winners with their colleges were:

100-yard dash, Russell, Cornell; 220-yard dash, Russell, Cornell; 440-yard run, Cooke, Syracuse; 880-yard run, Watters, Harvard; mile run, Haggerty, Harvard; two-mile run, Tibbetts, Harvard; 120-yard hurdles, Dye, Southern California; 220-yard hurdles, Grubles, Southern California; discus throw, Houser, Southern California; broad jump, Dowling, Georgetown; high jump, King, Stanford; hammer throw, Biggs, Syracuse; shot put, Houser, Southern California; pole vault, Carr, Yale; javelin throw, Harlow, Stanford.

The Oxford-Cambridge versus Princeton-Cornell meet held at London, England, in July resulted in a victory for the British collegians by a score of seven first places to five. The winners in the various events were: 100-yard dash, Russell, Cornell; 220-yard dash, Russell, Cornell; 440-yard run, Rinkel, Cambridge; 880-yard run, Fryer, Cambridge; mile run, Starr, Cambridge; two-mile run, Fooks, Cambridge; 120-yard hurdles, Burghley, Cambridge; 220-yard hurdles, Burghley, Cambridge; high jump, Vangreyzee, Cambridge; pole vault, Bradley, Princeton; broad jump, Dikeman, Princeton; shot put, Sullivan, Cornell.

There was considerable activity among the women athletes of the United States, culminating in the national championships held at Philadelphia where one world record and five American marks were broken. The individual star was Miss Lilian Copeland of Pasadena, Cal., who established one world record and captured three titles. The winners in the several events were:

50-yard dash, Etta Cartwright, Northwestern California A. C.; 100-yard dash, Rosa M. Grosse, Toronto Ladies A. C.; 60-yard hurdles, Helen Filkey, Midwest A. C., Chicago; running high jump, Catherine Maguire, Coliseum A. C., Chicago; running broad jump, Nellie Todd, Midwest A. C.; shot put, Lilian Copeland, Pasadena A. and C. C.; javelin throw, Lilian Copeland; discus throw, Lilian Copeland; throwing baseball, Mabel Holmes, Paterson R. C.; 440-yard relay, Toronto Ladies, A. C. See CROSS COUNTRY RUNNING.

**ATOMIC WEIGHTS.** See CHEMISTRY.

**ATOMS, ATOMIC THEORY.** See PHYSICS.

**AUROGUMMITE.** See CHEMISTRY under *Mineralogical Chemistry.*

**AUSTRALIA,** COMMONWEALTH OF. A self-governing dominion of the British Empire, consisting of the six original states (formerly colonies) of New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania, together with the Northern Territory and the Federal Territory, and comprising the island continent of Australia with its dependencies. The present Commonwealth dates from its proclamation in 1901, under the act of union passed in the preceding year. Of the divisions mentioned above, the Northern Territory was transferred by South Australia to the Commonwealth; and the Federal Territory consists of a former portion of New South Wales. At the beginning of 1926 the seat of the government was at Melbourne, but it was expected that the parliamentary meeting for that year would be held at the new capital Yass-Canberra, on which building operations were begun in 1923.

**AREA AND POPULATION.** The area of Australia is 2,974,581 square miles and the population according to the census of April 4, 1921, 5,435,734. The population was estimated at 6,017,289 on March 31, 1926. The accompanying table from a report of the Commonwealth Statistician and Actuary gives the area in square miles and the population according to the census of 1921, and also the estimated population by states on March 31, 1926:

States and Territories	Area sq. miles	Population	
		April 4, 1921	March 31, 1926*
New South Wales ..	309,432	2,100,371	2,308,333
Victoria .....	87,884	1,531,280	1,691,486
Queensland .....	670,500	755,972	867,643
South Australia ..	380,070	495,160	555,740
Western Australia ..	975,920	332,732	372,732
Tasmania .....	26,215	213,780	212,139
Northern Territory ..	523,620	3,867	3,701
Federal Capital Territory .....	940	2,572	5,515
Total .....	2,974,581	5,435,734	6,017,289

\* estimated.

The above figures do not include the full-blooded aborigines, whose number was estimated at 60,000. The figure for 1926 represents an increase of 112,618 during the year, of which 79,937 is accounted for by excess of births over deaths and 32,681 by net immigration. In all states except Tasmania increases were shown, New South Wales leading with a net increase of 43,535, followed by Victoria with 24,390, Queensland, with 25,414, South Australia with 14,233, and Western Australia with 6355. New South Wales and Victoria account for more than half the total population, having 2,308,333 and 1,691,486, respectively. Australia's net gain

in population by immigration during 1925 amounted to 37,357, a somewhat smaller increase than during the preceding year, but slightly greater than the average for the past five years, according to figures compiled by the above mentioned source. Arrivals during the year reached 100,075, against 62,718 departures. Approximately 83 per cent of the new arrivals were British whites, and 12 per cent from other white races. New South Wales and Victoria together absorbed more than two-thirds of the total net increase. During the same year there were 135,792 births, 54,568 deaths, and 40,899 marriages. The populations of the capital cities with their suburbs on Jan. 1, 1926, were as follows: Sydney, New South Wales, 1,039,390; Melbourne, Victoria, 912,130; Brisbane, Queensland, 263,711; Adelaide, South Australia, 303,614; Perth, Western Australia, 179,388; Hobart, Tasmania, 58,740.

**EDUCATION.** At the end of 1924, New South Wales had 3259 government schools with 10,400 teachers and 333,074 pupils enrolled; 693 private schools with 4200 teachers and 82,545 pupils. Victoria in 1923 had 2460 state schools with 6919 teachers and a total enrollment of 253,307 students; in 1924 there were 486 private schools with 2154 teachers and an enrollment of 63,105 scholars. During the year 1924 there were in Queensland 1688 state schools with 4122 teachers and an average daily attendance of 104,283 pupils; 169 private schools (1923) with 4129 teachers and an average daily attendance of 20,900 pupils. South Australia in 1924 had 1078 state schools with 83,483 children under instruction; 186 private schools with 15,063 students. In the same year Western Australia had 789 state schools with 51,726 students enrolled; 117 private schools with 11,336 enrolled. In Tasmania nine-tenths of the primary teaching is at state schools. In addition to the above there are various high and technical schools in all the states. The capital of each state is the seat of a university: Sydney (1924), 2688 students and 203 professors, etc; Melbourne, (1924), 2423 students; Brisbane, (1924), 447 students; Adelaide (1913), 720 students; Perth (1913), 182 students; Hobart (1924), 230 students.

**PRODUCTION, ETC.** According to statistics supplied by the Commonwealth Statistician and Actuary, the total area under crop acres in 1924-25 was 17,278,000; the value of agricultural production, £107,096,000; and the value of crops per acre £6/4/0. The area under the principal crops, and the total yield and the yield per acre in 1924-25 were as follows: Wheat, 10,825,000 acres, 164,559,000 bushels, 15.20 bushels per acre; oats, 1,165,000 acres, 19,394,000 bushels, 16.65 bushels per acre; barley, 260,000 acres, 5,066,000 bushels, 19.47 bushels per acre; maize, 399,000 acres, 12,432,000 bushels, 31.16 bushels per acre; hay, 3,026,000 acres, 4,068,000 tons, 1.34 tons per acre; potatoes, 139,000 acres, 332,000 tons, 2.39 tons per acre; sugar cane, 274,000 acres, 3,400,000 tons, 19.38 tons per acre; orchards, 277,000 acres, £7,417,000 in value; vineyards, 114,000 acres, 13,299,000 gallons produced.

The 1925 livestock census showed 93,155,000 sheep, 13,309,000 cattle, 2,292,000 horses, and 980,000 pigs. The production of wool was 729,243,000 pounds; butter, 313,952,000 pounds; cheese, 31,442,000 pounds; condensed and pow-

dered milk, 62,009,000 pounds; bacon and ham, 69,312,000 pounds. The value of pastoral and dairy production was £167,081,000; exports of Australian pastoral products, £80,388,000; exports of Australian dairy products, £12,309,000.

The following table supplied by the above mentioned source shows the value of the mineral production of Australia for 1924 and 1925:

MINERAL PRODUCTION—VALUE, AUSTRALIA,  
1924 AND 1925  
[000 omitted]

Mineral	1924	1925*
Gold	3,144	2,375
Silver and lead	4,828	5,982
Copper	976	757
Tin	741	753
Zinc and concentrates	1,391	1,135
Coal (brown)	41	166
Coal	11,574	11,375
Limestone flux	267	240
Iron (pig)	519	525
Iron ore and flux	667	675
Precious stones	45	63
Salt	141	178
Value all mineral production	24,646	24,600

\* Preliminary.

Although approximately 95 per cent of Australia's total exportation consists of primary products, there is nevertheless a well developed and well protected manufacturing industry which supplies more than three-fourths of the domestic requirements. In 1925 there were 20,795 factories, employing 440,000 hands, paying £81,360,000 in wages, and an average wage of £192. The raw materials used were valued at £221,994,000; the value added in the manufacturing process was £147,137,000; the total value of the manufactured product was £380,844,000; the value of the lands and buildings was £91,242,000; and the plants and machinery were valued at £109,243,000.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, Australia's overseas commerce during the year ending June 30, 1926, showed a considerable excess of imports over exports, owing to the year's poor wheat crop. While the value of merchandise imports increased from £146,595,000, in the preceding year, to £151,020,000, merchandise exports declined from £159,962,000 to £142,618,000—a loss of £17,344,000. The stability of Australia's export trade depends very largely upon the quantity and quality of wool and wheat produced and the prevailing world price level of these commodities, as normally they make up more than half of the total Commonwealth export. The wool clip during 1925-26 was good and prices were satisfactory, but the wheat yield was short, causing the value of wheat exports to decline £17,575,197. Several other export items of lesser importance, including butter, frozen beef, milk, cream, and raisins, also recorded declines, but these losses were largely counterbalanced by increases in the exports of mutton and lamb, fresh apples, and tinned meats.

Import business remained fairly steady, with no great changes occurring in individual articles. The total value of all commodities increased £4,425,000, as compared with the preceding year. While the total of imports during the year showed little change, several items registered considerable gains—particularly kerosene, gasoline, and lubricating oils, machinery, rubber

manufactures, undressed timbers, and unmanufactured tobacco. Slight gains were made in the receipt of silk piece goods, but woollens declined. Imports of motor vehicles showed little change in value, but, as the price level was falling throughout the year, it is believed that a large number of units were received from overseas markets. The value of trade in principal commodities during 1924-25 and 1925-26 is shown in the table following:

AUSTRALIAN FOREIGN TRADE IN PRINCIPAL COMMODITIES

Item	Period	
	1924-25	1925-26
<b>IMPORTS</b>		
Fish, preserved in tins .....	1,120,428	1,167,737
Meats:		
Preserved in tins .....	42,240	53,116
All other, including sausage casings .....	366,980	470,103
Milk and cream .....	32,359	20,388
Cocoa and chocolate .....	285,491	315,824
Confectionery, chocolate .....	25,168	35,872
Fruits, dried .....	136,185	141,905
Tobacco:		
Manufactured .....	105,071	97,648
Unmanufactured .....	2,005,939	2,250,305
Cigars .....	94,895	113,492
Cigarettes .....	203,209	297,809
Piece goods:		
Cotton and linen .....	10,932,661	10,343,323
Silk .....	5,125,909	5,257,115
Woolen .....	3,211,351	2,319,756
Carpets, linoleums, mats, etc. ....	2,971,334	2,633,563
Corn and flour bags and sacks ..	2,960,234	2,810,252
Oils (in bulk):		
Kerosene .....	862,389	921,403
Lubricating (mineral) .....	864,700	948,566
Petroleum spirit .....	5,413,264	6,564,025
Paints and varnishes .....	657,075	702,404
Electrical cable and wire, covered .....	1,327,766	1,432,941
Implements and machinery (agricultural, horticultural, and viticultural) .....	784,024	833,828
All other machines and machinery .....	6,904,192	7,556,740
Metals and metal manufactures other than machinery:		
Iron and steel—		
Bars, rods, hoops, ingots, blooms, etc. ....	1,149,670	938,150
Girders, beams, channels, joists, etc. ....	326,348	346,013
Pipes and tubes .....	1,389,130	1,569,200
Plate and sheet—		
Galvanized, flat .....	586,027	490,356
Galvanized, corrugated .....	1,853,682	1,555,156
Plain .....	997,400	853,833
Tinued .....	1,571,891	1,279,555
Vehicles:		
Motor cycles, tricycles, etc. ....	754,350	713,289
Bodies for motor cars, etc. ....	1,109,846	1,183,937
Chassis for motor cars, etc. ....	10,493,449	10,732,507
Rubber manufactures .....	2,347,019	3,240,262
Timber:		
Dressed .....	1,245,418	1,432,947
Undressed .....	3,202,527	3,883,453
Paper, printing .....	2,793,332	2,853,223
Books (printed), directories, etc. ....	1,180,904	1,331,939
Jewelry, including cameos, etc. ....	735,549	760,759
Watches, clocks, chronometers, etc. ....	614,576	671,581
Films for kinematographs, etc. ....	205,328	249,236
Surgical and dental instruments, etc. ....	329,702	324,181
Talking machines, phonographs, etc. ....	680,618	860,458
Fertilizers .....	1,023,233	990,931
Proprietary medicines .....	246,214	251,801
Pianos and parts .....	1,180,460	1,044,913
<b>EXPORTS</b>		
Butter .....	10,006,081	7,006,872
Meats:		
Preserved by cold process—		
Beef .....	4,140,087	3,264,920
Lamb .....	1,216,242	1,717,735
Mutton .....	305,840	601,210
Rabbits and hares .....	310,683	399,039
Preserved in tins .....	289,645	382,026
Milk and cream .....	1,694,634	1,449,431

Item	Period	
	1924-25	1925-26
<b>EXPORTS</b>		
Fruits:		
Dried—		
Currants .....	509,179	402,283
Raisins .....	1,392,566	1,026,339
Fresh—		
Apples .....	878,718	1,275,565
Wheat, unprepared .....	34,618,713	17,088,516
Wheat flour .....	6,186,275	6,839,361
Skins:		
Hides (calf, cattle, and horse) ..	1,389,050	1,175,825
Rabbit and hare .....	2,492,438	2,880,360
Sheep .....	3,828,976	3,523,899
Other .....	439,336	391,695
Wool:		
Greasy .....	55,580,545	56,500,834
Scoured and washed .....	6,562,751	5,542,537
Tops .....	1,119,849	1,162,877
Coal .....	1,079,584	881,673
Eucalyptus oil .....	75,763	73,023

Considerable change occurred in the trade in precious metals. During 1924-25, when the Commonwealth was preparing for a return to the gold standard, gold and silver imports reached the value of £10,549,000, but during 1925-26 receipts of precious metals amounted in value to only £426,000. On the export side, however, shipments of precious metals increased from £2,069,000 to £5,527,000, the increase being due almost entirely to larger exports of gold. The following table shows Australia's recent imports and exports of merchandise and treasure:

AUSTRALIAN TRADE IN MERCHANDISE AND TREASURE

Year	Imports	
	Merchandise	Gold and silver
	£	£
1913 .....	78,209,359	1,540,394
1919-20 .....	98,914,150	60,142
1920-21 .....	163,776,626	25,000
1921-22 .....	102,992,173	74,263
1922-23 .....	131,704,757	53,078
1923-24 .....	140,659,858	82,642
1924-25 .....	159,961,551	2,068,604
1925-26 .....	151,019,564	425,929
Year	Exports	
	Merchandise	Gold and silver
	£	£
1913 .....	77,595,145	976,624
1919-20 .....	105,862,075	4,164,726
1920-21 .....	120,966,258	5,464,423
1921-22 .....	119,150,973	4,336,539
1922-23 .....	111,751,309	3,344,571
1923-24 .....	118,057,892	1,449,272
1924-25 .....	159,961,551	2,068,604
1925-26 .....	142,617,862	5,527,110

**FINANCE.** The annual fiscal period for 1924-25 showed the Commonwealth consolidated revenue to be £68,854,809 and the expenditures totaled £68,336,432. The estimates for 1925-26 were: revenue, £68,684,300; expenditure, £68,568,586.

The net public debt of Australia on June 30, 1925, according to statements issued by the Commonwealth Bureau of Census and Statistics, was £965,870,844, an increase of £10,859,000 during the year. This represents the smallest increase for nine previous years, while the per capita debt actually showed a decrease of £1/13/2. The gross debt is actually £71,135,472 more than as shown, this amount representing duplicating in the figures. The Commonwealth issues loans on its own security on behalf of the states, while it owes certain sums to the states on account of certain properties acquired from them. The following table reflects the growth in the public debt of Australia, 1916-1925:

## COMMONWEALTH AND STATES—PUBLIC DEBT

June 30—	Commonwealth £	States £	Deduction for debts counted twice <sup>a</sup> £	Net public debt of Australia £
1916	101,344,285	863,373,549	7,624,397	457,093,437
1917	169,229,557	379,950,506	15,067,772	534,112,291
1918	284,055,069	399,742,070	18,164,628	665,632,511
1919	325,770,747	400,576,535	22,045,516	704,301,766
1920	381,309,905	430,092,847	33,060,917	778,341,835
1921	401,720,024	474,847,459	48,551,637	828,015,846
1922	416,070,509	523,489,389	55,182,665	884,377,233
1923	410,996,316	550,878,641	56,390,011	905,484,946
1924	415,600,099	595,364,487	55,953,000	955,011,586
1925	430,948,062	606,058,254	71,135,472	965,870,844

<sup>a</sup> Sums owed by Commonwealth to States, and sums owed by States to Commonwealth.

The public debt of the states increased by £242,684,705, or 66 per cent, after June 30, 1916. Principally because of the war, the increase in the Commonwealth debt has been much greater, but after the armistice it continued to grow, increasing from 1919 to 1925 by £105,177,315. During the same period the public debt of the states increased by £205,481,719. These increases, however, contain duplications totaling £49,089,956.

COMMUNICATIONS. In 1924 the number and net tonnage of the registered vessels in the Commonwealth was as follows: Sailing, 1181 of 37,427 tons; steam, 1078 of 401,887 tons; total, 2259 vessels of 439,314 tons. In 1924-25 the number of vessels entering the ports of the Commonwealth was 1726 of 5,596,000 net tons and the number of vessels clearing was 1723 of 5,604,000 net tons.

Australian railways, after meeting interest charges and other expenses, suffered a loss of £833,008 during the year ending June 30, 1925, according to a statement by the Commonwealth statistician. On that date, there were 27,688 miles of railway open for traffic of which 24,844 miles (capital cost £276,114,845) were government owned. Of the 2844 miles of privately owned railroads, 961 miles were available for general traffic. The average capital cost of the government mileage was £11,114 per mile. The loss sustained during the year was 47 per cent less than in 1923-24. While the tonnage of goods carried increased by 2,290,000 tons to approximately 38,000,000 tons, the number of passenger journeys decreased by 1,560,000 to 370,350,000. This decrease is ascribed to motor-bus competition, particularly in Victoria. Electric tramways operated 62,000,000 car-miles and 622,000,000 passenger journeys were made. The gross revenue for the year (£6,248,686) exceeded the working expenses (£5,170,814) by £1,077,872.

Work on the unification of Australia's railway gauges is progressing slowly. In 1921 a royal commission appointed to investigate the question of a standard gauge estimated the cost of unifying the Fremantle-to-Brisbane gauges at £21,600,000, and the cost of conversion of all Australian lines at £57,000,000. However, it is now considered that the work will considerably exceed this estimate.

The first step in the unification of the Fremantle-to-Brisbane gauge was marked by the commencement of work on the line between Grafton (New South Wales) and Brisbane (Queensland), a distance of 180 miles. It is estimated that this line would not be com-

pleted under a cost of £4,000,000. The work was to be done in four sections. The 4-foot 8½ inch gauge between Grafton and Kyogle was being strengthened by the substitution of 80 pound for 60 pound rails. This work was being carried on by the New South Wales Government and was near completion. Between Kyogle and the Queensland border (26½ miles) the work was to be done by New South Wales at a cost of £1,045,806. The announcement was made during the year that this line would probably be commenced in the immediate near future.

The 60½ miles in Queensland was to be built by the Queensland Government at an estimated cost of £1,030,142. There remained an 8 mile section, which the Queensland Government was constructing. When the unified gauge was completed Queensland would be greatly benefited, as the route would open new avenues of trade. More than 100 miles would be saved, traveling would be quicker and more comfortable, and there would be no more changing of trains at the border.

The next step proposed in the unification was the construction of a 4-foot 8½-inch gauge from Port Augusta, South Australia, to Red Hill, and the laying of a third rail from there to Adelaide, in accordance with the recent hearings held in Melbourne and Adelaide by the Federal public works committee. The royal commission in 1921 rejected all proposals for the use of a third rail on wide gauges. The cost of the project was estimated at £734,923. By using the proposed Port Augusta-to-Red Hill line it was said that over five hours would be saved and two breaks of gauge would be eliminated. The completion of this scheme will mean that on the journey from Perth to Adelaide there will be only one change of trains, that at Kalgoorlie. When the 3-foot 6-inch narrow gauge from Kalgoorlie to Perth is standardized, the transcontinental train will run from Fremantle to Adelaide without change.

After the foregoing work has been completed, it is probable that the standardization of the wide-gauge line from Adelaide to Melbourne and thence to Albury will be undertaken. This is the last stage in the unification of the Fremantle-to-Brisbane line, and its completion will give a unified gauge for a distance of 3486 miles.

The main difficulty of the breaks in gauges is not the mere handling charges for goods transferred, but the serious detention of rolling stock over long periods. The majority of the people of the Commonwealth are very strongly in favor of unification of gauges, and apparently it is only a matter of time until this becomes an actuality.

The annual report of the commissioners of the Australian State Railways for the year ended June 30, 1926, shows that the capital expenditure totaled £26,267,702, including lines under construction; this represents an increase of £1,923,649 over the previous year. The cost of open lines, with rolling stock and equipment amounted to £25,992,778, against £24,046,604 for 1925—an increase of £1,946,174. The earnings, amounting to £4,262,174, represented a net increase of £249,438. The ordinary working expenses were £3,121,145 and the interest on capital £1,195,108, the total of £4,316,253 showing a deficit for current operations of £54,079. Accumulated and deferred charges aggregated

£3,982,314, showing a total accumulated deficit of £4,036,393.

**GOVERNMENT.** The executive power is vested in the king, who acts through the governor-general, assisted by an executive council of responsible ministers who must be members of the Federal Parliament. Legislative power, where it is not specially reserved to the states, is vested in a Federal Parliament, comprising a senate and house of representatives. The senate consists of at least six senators from each of the original states, elected for six years, one-half of whom are renewed every three years; while the house of representatives consists of approximately twice as many members as there are senators, the representation being in proportion to the population as shown at the last census. The number in the house in 1926 was 76. The governor-general at the beginning of 1926 was John Lawrence Baron Stonehaven. The ministry was as follows: Prime Minister and Minister of External Affairs, Stanley Melbourne Bruce; Treasurer, Dr. E. C. G. Page; Vice-president of the Executive Council, George F. Pearce; Home and Territories, Sir Thomas W. Glasgow; Attorney-general, John G. Latham; Postmaster-general, William G. Gibson; Trade and Customs, Herbert E. Pratten; Works and Railways, William C. Hill; Defense and Health, Sir Neville R. Howse; Markets and Migration, Thomas Paterson; Honorary Ministers, Thomas W. Crawford and Charles W. C. Marr.

**HISTORY.** The chief interest in Australian politics during the year centred around the rather extended meeting of the Federal Parliament, which was opened by Lord Stonehaven on January 13. His opening speech dealt with various measures to be proposed by the government which included stringent measures regulating the relations of the state and capital and labor, probably because of the seriousness of the strikes which had convulsed the country during 1925. He made a severe attack on all forms of communism and stated that measures would be introduced to completely forbid the establishment of any organization, political party, or otherwise which had as its motivating cause the overthrow of constitutional government. The law was to have "teeth" by providing for rigorous punishment for any persons organizing such agencies. As a direct result of the waterside strike of the previous year he suggested the enactment of laws preventing interference of any kind with the transportation of foodstuffs or passengers. Along the same lines he suggested that the laws regulating labor be changed so as to permit the members of trade organizations to control their own leaders by means of a secret ballot, as well as a law to increase the efficiency of the Labor Arbitration Court. Other measures suggested were the securing of a uniform railway gauge throughout the country, the development of the Northern Territory, and the strengthening of the national defense.

Towards the end of January, Parliament started work on the recommendations of Lord Stonehaven. The Commonwealth Crimes Bill included penalties of deportation and severe punishment for any person or persons advocating the overthrow of the government, by force or violence, as well as the government of any state of the Commonwealth, and made the same provisions for persons destroying or injuring the

property of the Commonwealth or of property used in trade or commerce, either among the several states or with foreign countries. The bill concerning the Northern Territory provided for the division of that section along the 20th parallel, into two divisions, the northern one to be controlled from Darwin and the southern from Alice Springs. The purpose of this measure, according to Prime Minister Bruce, was the necessity for populating the northern part of the country as a surety of national safety. The parliament adjourned on March 26 for six weeks after passing the government's tariff bill with slight changes.

During the summer several changes occurred in the cabinet. Sir R. V. Wilson, the Minister for Markets and Migration, resigned and was succeeded by Mr. Patterson, of the Country Party. L. Atkinson, the Vice-President of the Executive Council, also resigned and was succeeded by Sen. B. F. Pearce, who had previously been Minister for Home and Territories, his successor in that position being Maj-Gen. Sir William Glasgow. During the same period Premier Bruce secured the passage of the so-called Migration and Development Act, which provided for a commission of four to make an exhaustive study of the resources of Australia to determine the amount of immigrants that could be assimilated. The commission was to work in close harmony with the various states and was given large powers of initiating and approving schemes for development. This commission was also given full charge of the division of a loan of £34,000,000 among the several states for purposes covered by the above mentioned bill.

**REFERENDUM.** According to the Australian constitution, amendments must be approved by an absolute majority of the total votes but by a majority of the votes in at least four of the six states. On September 4 the voters of Australia rejected by an overwhelming majority two proposals set before them by the government. They dealt with the economic laws mentioned above as having been passed by parliament. The first one was primarily concerned with the regulation of industry and commerce by the federal government and the second gave the government the power to operate any public utility when its service was interrupted or threatened for any reason. The total vote, largely because of the compulsory voting law of Australia (see preceding YEAR BOOK), was in the neighborhood of 2,500,000, and the negative majority against the first amendment was 353,806 and against the second 381,510. Only New South Wales and Queensland voted in favor of both questions, undoubtedly because these two states had suffered mostly from the strikes of 1925. The press in general did not consider the rejection of the amendments as a defeat for the Bruce Ministry, but considered it a direct mandate from the people that they did not wish the powers of the federal government increased at the expense of the states. A curious feature of the amendments was the fact that both the majority and minority parties supported the measures in parliament, but quite evidently did not reflect the wishes of their constituents in so doing. Premier Bruce in commenting upon the results stated that the government could do no more than it had done and that in case of future trouble the hands of the federal gov-



ernment were tied. Australian leaders appear unanimous that the powers of the federal government must be broadened, but this vote is the fourth time (1911, 1913, 1919 were the previous instances) that the people have absolutely vetoed measures seeking this end.

On December 3, the Australian Commissioner to the United States, Sir Hugh Denison, announced that within a short time his Commonwealth would be diplomatically represented at Washington, probably in the same way that Canada and the Irish Free State were represented.

**AUSTRIA.** A republic of central Europe, proclaimed Nov. 12, 1918, after the revolution following the World War; boundaries defined by the Treaty of St. Germain, signed Sept. 10, 1919. It consists of the following nine provinces: the City of Vienna, Lower Austria, Upper Austria, Salzburg, Styria, Carinthia, Tirol, Vorarlberg, and Burgenland.

**AREA AND POPULATION.** According to the census of Mar. 7, 1923, the total area was 32,369 square miles and the population 6,535,759, giving a density of 202 persons to the square mile. The area of the Austrian provinces before the World War was 39,012 square miles and the population, according to the census of 1910, 7,529,935. According to the 1923 census, the City of Vienna, which constitutes a province, had a population of 1,866,147, making up 28.56 per cent of the total number of inhabitants. The other chief cities with their populations on Mar. 7, 1923, were: Graz, 152,706; Linz, 102,081; Innsbruck, 56,380; Salzburg, 37,856; Wiener Neustadt, 36,956; St. Pölten, 31,619; Klagenfurt, 27,423; Steyr, 22,111; Mödling, 18,677; Villach, 16,903; Wels, 16,412; and Baden, 14,579. The movement of population in 1923 was: Births, 145,885; deaths, 99,924; marriages, 56,594; divorcees (excluding Burgenland) 5336. The number of immigrants in 1924 was 2650.

**EDUCATION.** Primary education is compulsory between the ages of 6 and 14, but exemptions are easily obtained for children of the age of 12 or over. In 1923 there were 5240 public and private elementary schools, with 31,134 teachers and 818,795 pupils. Secondary education is afforded by Gymnasias, Realschulen, middle schools, and middle schools for girls. In 1922-23 there were 141 secondary schools of all kinds with 2491 teachers and 39,043 pupils. There are three universities maintained by the state, namely, Vienna, with 890 teachers and 11,527 pupils in 1923; Graz, 253 teachers and 2757 students, and Innsbruck, with 179 teachers and 1716 students. There were also in 1923 two technical high schools; 36 training colleges for teachers; two theological high schools; high schools for agriculture, mining, art, and music; and 13 theological colleges, of which 11 were Roman Catholic.

**PRODUCTION.** Agriculture is the principal occupation of the country. In 1924 the total acreage sown was 4,694,000 acres, 2,118,250 of which were in Lower Austria and 965,500 acres in Upper Austria. The chief crops with their acreage and yield in metric tons in 1924 were: Wheat, 287,500 acres, 231,068 tons; rye, 838,475 acres, 411,235 tons; barley, 345,135 acres, 156,940 tons; oats, 771,535 acres, 331,556 tons; potatoes, 418,593 acres, 1,647,222 tons; turnips, 126,193 acres, 1,210,194 tons. In 1925 the yield

of wheat was 826,000 tons; rye, 624,000 tons, barley, 253,000 tons; and of oats, 499,000 tons. In 1923-24 the production of raw sugar was 47,256 tons. The foodstuffs produced are not sufficient to meet the needs of the population. The latest livestock census showed 282,674 horses, 1,074,993 cows, 302,216 oxen, 68,197 bulls, and 717,459 calves. Austria was deprived of many of her mineral resources as a result of the World War, but the output of her remaining mines is of considerable importance. In 1924 the production of lignite was 2,735,816 tons and of anthracite, 171,959 tons. The iron ore output was 713,805 tons, and of pig iron, 266,618 tons. Other mineral products are copper, zinc, lead, and salt. Piano-making, and the manufacture of automobiles, textiles, and tobacco are of some importance. Tobacco manufacture is a government monopoly.

**COMMERCE.** The United States Bureau of Foreign and Domestic Commerce reported that although the Austrian trade deficit was reduced from \$212,000,000 in 1924 to \$134,000,000 in 1925, the conspicuous improvement recorded earlier in the year was not maintained. Exports, which had gained during the first nine months, suffered a sharp contraction in the final quarter—especially in shipments to Germany and Poland—so that earlier gains were lost and the year closed with a 2 per cent decline from export levels established in 1924. The reduction of the trade deficit consequently, goes back wholly to a 17 per cent reduction of imports, which, both in weight and value, extended to all categories except livestock. Total Austrian imports in 1925 were valued at \$412,000,000, as compared with \$496,000,000 in 1924. A reduction in receipts of foodstuffs from \$134,000,000 reflects bumper crops. The decline in imported mineral fuels from \$41,000,000 to \$33,000,000 is a result of fuel economies, substitution of hydro-electric power for coal, and greater use of domestic lignite resources. Other raw materials and half products declined in value from \$105,000,000 to \$89,000,000, attributable not so much to reduced quantities as to lower world prices, since the decline in weight from 1,206,300 to 1,116,400 metric tons is relatively slight.

Imports of American raw cotton showed a reverse movement, increasing from 14,188 metric tons valued at \$8,000,000 in 1924 to 27,738 tons valued at \$16,500,000 in 1925. A substantial increase in receipts of copper from the United States also occurred. Imports of manufactured goods declined sharply from \$179,000,000 to \$133,000,000—a result largely, of higher import duties which became effective on the first day of the year, and of greater sales of domestic products. Austrian total exports were valued at \$278,000,000 in 1925, or slightly below the \$284,000,000 of 1924. This less favorable showing is attributed to a contraction of shipments to Poland and Germany in the last quarter of 1925, though lower prices seem to be equally responsible. Thus, the value of manufactured products exported shows a decline from \$221,000,000 to \$204,000,000, whereas an increase occurred by weight from 498,700 to 556,900 metric tons. Similarly, though the value of exported raw materials and half products increased from \$51,000,000 to \$55,300,000, a relatively greater increase occurred by weight, or



from 1,917,800 to 2,552,400 metric tons. These are the principal Austrian export categories. Changes in other classes were relatively unimportant.

Austria is one of those countries which may normally be expected to show a trade deficit and yet maintain its economic equilibrium by other foreign income sufficient to offset its excess of imports over exports. In 1924 there was evidence that these so-called invisible exports were sufficient to offset at least the greater part of a \$212,000,000 trade deficit. It is said that a large part of the industries of the former Austro-Hungarian Empire are still owned in Austria and pay dividends to Vienna. The recovery of Vienna as a commercial and financial centre contributes important foreign revenues for services rendered. To this may be added the earnings on transit traffic, tourist trade, and remittances from Austrian emigrants abroad. In 1925 the trade deficit was reduced from \$212,000,000 to \$134,000,000—a saving of \$78,000,000, or nearly \$12 per capita. On the other hand, the foreign earnings mentioned above are believed to have increased, reflecting materially greater commercial and financial activity. The Austrian schilling, which for some time has been free from all artificial restrictions and support, remained stable throughout the year.

**FINANCE.** Austria further improved its fiscal position in 1925, according to final returns announced by the Federal auditing office. The year 1923 closed with a deficit of \$22,700,000, which was met out of the proceeds of the international loan; in 1924 the deficit was cut to \$1,860,000; and in 1925 a surplus of \$10,920,000 was attained. This is the first Austrian surplus since the war, and is the more notable since it remains over and above the capital expenditures of \$12,930,000 made during the year. Capital expenditures in 1923 and 1924 included in the above totals reached \$10,860,000 and \$14,800,000, respectively. The improvement in 1925 was effected through greatly increased revenues as against smaller increase in expenditures. In 1924 actual fiscal results exceeded budgetary anticipations, but in 1925 the improvement was particularly marked. The strong fiscal position of the government has been achieved by means of heavy taxes, collected at the expense of some portion of the country's prosperity. It is stated by financial observers that the total of Federal and state taxes, estimated at \$18 per capita in 1923, had risen to \$27 in 1924 and to \$33 in 1925, as compared with \$25.50 under more favorable conditions before the war. The establishment of Austrian fiscal equilibrium at a level at which the country can more easily sustain it is therefore considered a desirable end. The 1926 budget was in fact, drawn at considerably lower levels, both in revenue and expenditure. As in previous years, a deficit was forecast, specifically \$12,070,000; but it was probable that actual performance would, as in past years, show a reduction or elimination of the deficit. Thus, in 1924, when anticipated total revenues were budgeted at 763,800,000 schillings and total expenditures at 824,900,000 schillings, actual revenues were 900,600,000 schillings, and actual expenditures were 913,600,000 schillings, leaving an actual deficit of only 13,000,000 schillings as compared with 61,100,000 schillings forecast. In 1925 total revenues were budgeted at 856,860,-

000 schillings, and the amount collected was 1,076,960,000 schillings. Actual expenditures, including an additional 16,000,000 schillings for railway electrification authorized only late in the year, rose from an estimated 930,460,000 schillings to an actual 1,000,510,000 schillings. The deficit of 73,600,000 schillings which was forecast in the budget was accordingly converted into a surplus of 76,450,000 schillings as noted.

In the 1926 budget, total revenues were forecast at 759,400,000 schillings. Although some reductions of individual tax schedules occurred, it seemed unlikely that Federal revenues amounting to 1,076,900,000 schillings in 1925 would decline in 1926 to the budget figure of 759,000,000 schillings. Expenditures were forecast at 844,700,000 schillings, including 120,900,000 schillings for capital uses. The largest increase of revenue over budget estimates has occurred in the group of direct taxes (including income, corporation, inheritance taxes, etc.) and in the sales tax—Austria's largest single levy. The largest increase of unforeseen expenditures has been for social relief purposes, occasioned by the greater volume of unemployment resulting from the final elimination of certain industries under post-war conditions, and labor economies effected in others.

In September, the finance committee of the League of Nations finally released the unallocated remainder of the international loan to Austria made by the League of Nations, which amounted to 100,000,000 schillings (\$14,125,000). Of this sum, 50,000,000 schillings was deposited with the Austrian National Bank to reduce the government debt to 128,000,000 schillings. The balance was to be devoted to the laying of international telephone cables and to local telephone expansion; reconstruction and extension of railway roadbed; and the purchase of equipment for the tobacco and salt monopolies and other government enterprises.

The budget proposals as laid before the Austrian Parliament in the fall of the year for 1927, showed substantial increases in both expenditure and revenues as compared with 1926. This is the first budget that the Austrian authorities have put together entirely on their own responsibility, without the control of the League of Nations, which was withdrawn June 30, 1926. Total expenditures foreseen for 1927 amount to 1,702,622,000 schillings, with total revenues of 1,567,173,000 schillings, leaving a deficit slightly over 135,000,000 schillings. These expenditures, however, include approximately 180,000,000 schillings for capital investment—railway electrification, hydro-electric installation, telephone cable laying, etc. Excluding investment items, the 1927 budget would show a surplus of approximately 45,000,000 schillings. In budgeting the state enterprises the government has resorted to gross figures, instead of net figures as heretofore. This practice results in an apparent increase of more than 250,000,000 schillings in the totals above indicated, whereas the actual change from the budget situation of 1926 and previous years in this respect is not great. The operating budget of the State railways is not included in the federal budget, and the expenditures which do not appear on account of the railways are largely for capital purposes.

**AUSTRIAN BUDGET PROPOSALS FOR 1927**  
*[In thousands of schillings\*]*

Item	Actual, 1925	Estimated, 1926	Proposed, 1927
<b>EXPENDITURES</b>			
Federal administration	899,823	891,055	1,067,603
Government monopolies	4,940	6,702	201,630
Government enterprises	21,554	23,956	327,828
State railways	71,349	91,516	105,561
Total	997,666	1,013,229	1,702,622
<b>REVENUES</b>			
Federal administration	865,914	755,268	919,516
Government monopolies	172,525	171,126	390,130
Government enterprises	9,418	1,869	257,412
State railways	632	456	115
Total	1,048,489	928,719	1,567,173

\*The schilling equals \$0.1407.

NOTE.—In designating the various budgets, the word "actual" refers to the final expenditures and receipts, "estimated," to the budget as passed by the legislative body; and "proposed," to the budget submitted by the government but not yet adopted by the legislative body.

**COMMUNICATIONS.** In 1924 Austria had 4114 miles of railway lines, of which 3639 miles were operated by the state, and 475 miles by private companies. The Austrian Federal Railways put into effect on July 1, 1926, a new schedule of freight rates, which are expected to average about 5 per cent above those hitherto in force, although for certain classes of merchandise the new rates will be 15 per cent and 18 per cent higher. The railway management estimated that the resultant increase in revenue would be approximately 15,000,000 schillings (\$2,150,000) annually. The new rate base is intended not only to provide additional revenue but also to assist the Austrian railways in competition with foreign systems, to promote domestic production, and to facilitate competition with foreign merchandise. The management stated that the new freight rates are lower, compared with pre-war rates, than those now in force in neighboring countries. The Austrian rates in 1926 were 12 per cent above the pre-war level, while in Germany they were 38 per cent, in Czechoslovakia 20, in Switzerland 63, and in Hungary 13 per cent higher than in 1914. In general, the rate increase has been so distributed as to fall largely on short and medium hauls; the charges for long hauls, on the other hand, have, in some cases, been reduced. It may be said against this method that it facilitates the importation of foreign goods; but it also makes the shipment of domestic merchandise over long distances comparatively cheaper, and it increases the ability of Austrian railways to compete with foreign systems operating alternative routes.

**GOVERNMENT.** Under the provisions of the constitution which went into operation on Nov. 10, 1920, Austria was declared to be a federal republic. A president is chosen for four years by the two houses of the legislature. He may not be reelected more than once. The legislature is bicameral, comprising an assembly (Nationalrat) and a First Chamber (Bundesrat). The powers of the latter body are advisory. President at the beginning of 1926, Dr. Michael Hainisch (elected in 1920 and again in 1924). The ministry as constituted on Jan. 15, 1926, was as follows: Federal Chancellor and Minister of Foreign Affairs, Dr. Rudolf Ramek; Vice-chancellor, Dr. Leopold Weber; Social Welfare, Dr. Josef Resch; Agriculture, Andreas Thaler;

Finance, Josef Kollmann; Commerce and Industry, Railways, and Food Controller, Dr. Hans Schuerff; Education, Dr. Emil Schneider; Defense, Karl Vaugoin.

### HISTORY

**CABINET RECONSTRUCTION.** On January 14, the cabinet resigned and President Hainisch almost immediately requested Prime Minister Ramek to organize a new one. This was accomplished on the very next day and, when completed, showed comparatively slight changes. As reconstructed, the ministry was constituted with the following members: Premier and Minister of Foreign Affairs, Dr. Ramek; Vice-Chancellor and Minister of Justice, Dr. Leopold Weber; Education, Dr. Emile Schneider; Social Welfare, Dr. Joseph Resch; Finance, H. Josef Kollman; Agriculture and Forests, Andreas Thaler; Trade and Transport, Hans Schuerff; Defense, Karl Vaugoin, Ramek, Weber, Schneider, Resch, and Vaugoin held the same positions in the reconstructed cabinet as they did in the old one. Dr. Ramek stated that, while he had no panacea for the economic and industrial ills of Austria he would do all in his power to expand to their fullest capacity the economic resources of Austria. He intimated, however, that not much could be accomplished without the coöperation of the rest of central Europe. Dr. Ramek's position was made rather difficult because of the Austro-Italian trouble over the Tyrol. He seemed to be satisfied with Mussolini's statement that he did not intend to violate the territory of the Tyrol but the people of that district threatened to take the matter up with the League of Nations if Dr. Ramek did not take some action. Of course, such action on the part of Tyrol would absolutely contravene the Austrian constitution. Dr. Ramek also remained aloof from any comment on the proposed union with Germany. The press discussed it from time to time but seemed to feel that such a union would surely result in the absorption of Austria by Germany and the loss of her entity as a sovereign state.

**THE TARIFF QUESTION.** Throughout the entire year the question of tariff walls between the various countries of Europe was a very live one. In Austria Dr. Resch, the Minister of Social Affairs, blamed the trade condition almost entirely for the unemployment situation in Austria. At the beginning of the year he reported that 250,000 were unemployed, while provision had been made for only 130,000 in the budget. He stated that conditions would surely get worse if Austria was unable to negotiate favorable trade treaties with her neighbors. He was borne out in this contention by economic experts of the League of Nations, who attacked the protectionist policies of Poland, Czechoslovakia, Jugo-Slavia, etc. These states seemed to have gone back to the old mercantile theory of getting as much money in their countries as possible. They preferred to build up industries at home rather than buy goods from other countries. "Export more than you import" was their slogan and it was gradually bringing central Europe, in particular, to the brink of economic chaos.

On March 27, Dr. Ramek visited Germany to negotiate a trade treaty with Germany. The German tariff wall was the most favorable to Austria, although it was only slightly lower

than that of Italy. Nevertheless it was sufficiently high to seriously interfere with Austro-German trade. Rumania advanced some of her duties as high as 600 per cent and caused a serious condition in the Austrian metal industries. Bulgaria also increased her duties to the detriment of Austrian trade in general. Although Dr. Ramek's government was essentially a believer in free trade it felt that retaliatory measures were necessary. Consequently, Austria passed measures raising her own tariff horizontally about 25 per cent. Some of the provisions were indubitably attacks on the tariffs of her neighbors, but some of them were adopted to satisfy the demands of her agricultural class that they receive protection from imports. The Social Democrats attacked the new measures from principle, but the financial class opposed them because, once granted, the farming element would oppose reductions if necessary to meet a most favored nation clause in future tariff treaties with other countries. Others felt that the new tariff law would increase unemployment because of injury to the foreign trade.

**THE SCHOOL ISSUE.** The question of the reorganization of the schools of Austria which had remained dormant for some time flared up rather unexpectedly in June and caused the resignation of Herr Schneider, the Minister of Education. After the World War the old imperial system of education was abolished and the republic had so far failed to make any satisfactory substitution agreeable to all parties. While Dr. Ramek was attending the League of Nations meeting at Geneva, the storm broke when Dr. Schneider unexpectedly released the government's proposal for educational reform. The proposal was considered too clerical and reactionary by the Opposition and was bitterly attacked by the Pan Germans, who were the chief supporting factor in the government's majority in parliament. Dr. Schneider, without getting into communication with Dr. Ramek, allowed the various groups of the Opposition to establish their own school systems in those parts of the country that were controlled by them, whereupon his own party bitterly denounced him. Dr. Ramek disapproved of Dr. Schneider's scheme and as a result, the latter resigned his position on June 10.

The school muddle was the cause for a great demonstration on the part of the Socialists and Communists against the Ramek government. A huge demonstration was held in Vienna, which displayed banners attacking the government and calling "Down with the Ramek government." On June 26 Herr Rintelen, ex-governor of Styria, was appointed to the post left vacant by Dr. Schneider's resignation. He was bitterly opposed by the Socialists, who left parliament in a body when his name was proposed. They opposed him because of his anti-Socialist activities and because he was mixed up in the financial scandal in Hungary in 1922.

**END OF LEAGUE OF NATIONS CONTROL.** On June 30, 1923, the control over the finances of Austria by the League of Nations terminated. The work of Dr. Zimmerman was done. The consensus of opinion in all quarters, except that of the Social Democrats, was that Dr. Zimmerman had done an exceptionally good job. The Social Democrats claimed that it was entirely due to their opposition that the financial adviser had failed to put across his pet scheme of a

bourgeoisie control, which was expected and looked for by the Austrian business men. Dr. Zimmerman in commenting on the attitude and statements of the Social Democrats stated that they were only a minority group, although he was forced to fight them for every improvement he made in Austrian financial conditions.

**ATTACKS ON THE RAMEK CABINET.** On August 31, the Ramek government averted a serious crisis when a bill to impeach it was defeated by a strict party vote. The occasion for the introduction of the impeachment proceedings was the loan of \$9,000,000 made by the government to the Central Bank der Deutscher Sparkassen. This bank was very prominent in the old days of the Dual monarchy and acted as a clearing house for many of the provincial banks of the Empire. After the war the tremendous reduction in the territory of Austria compelled it to move to Vienna from Prague, and to engage in ordinary banking business. In June the bank was threatened with a run of depositors and the government loaned it the above mentioned sum to tide it over its difficulties. The Socialists bitterly attacked the Ramek government for taking this step without consulting parliament in advance. The premier defended himself by stating that there was not time to consult parliament at the moment; he did consult parliament as soon after the fact as he could; and that he expected to get the money back by a tax on all savings banks. A parliamentary investigation of the affair seriously weakened the position of the Ramek government, by showing that he and his party were involved politically and had not acted from purely unselfish motives. The investigation brought out the fact that when the government loaned the bank the money its liabilities exceeded its assets by more than \$14,000,000.

Chiefly because of this bank wrangle, the Ramek government was compelled to resign on October 15. The immediate cause of the resignation was the failure of the government and the state employees to agree on the question of an increase in wages. On October 20 a new cabinet was formed under the leadership of Dr. Seipel. It was constructed as follows: Chancellor, Foreign Affairs, and Interior, Dr. Seipel; Vice-Chancellor and Justice, Dr. Franz Dinghofer; Education, Richard Schmitze; Social Welfare, Dr. Josef Resch; Finance, Dr. Victor Kienbock; Agriculture and Forestry, Andreas Thaler; Trade and Transportation, Dr. Hans Schuerff; Defense, Karl Vaugoin. Resch, Thaler, Schuerff, and Vaugoin were retained from the preceding cabinet. The new cabinet relied for its support on the same group as had the Ramek cabinet—the Christian Socialists and the Pan German Party. The chief difference lay in the fact that Dr. Seipel was backed by the Christian Socialists of the City of Vienna rather than by the country districts as Ramek had been. Dr. Seipel in his opening remarks to parliament stated that he would first attack the difficulties that existed between the government and the state employees and the bankers. Afterwards he would take up the problem of the trade difficulties under which the republic was suffering. During December Dr. Seipel was attacked in several quarters because of his evident coldness to a union with Germany and his apparent friendliness with Mussolini. The Socialists ac-

cused him of turning away from Germany and leaning toward Italy because of his religion, Roman Catholicism, which would not mix with German Protestantism but would mix with Italian Catholicism.

**AUTHORS' LEAGUE OF AMERICA.** A national organization of authors, artists, dramatists, and screen writers, founded and incorporated in 1912, for the purpose of procuring adequate copyright legislation, both international and domestic; protecting the rights and property of all those who create copyrightable material; advising all such in the disposal of their productions and obtaining for them prompt remuneration therefor; disseminating information among them as to their just rights and remedies. The League supplies confidential information relating to publishers, theatrical and motion picture producers, art buyers, and other persons and companies engaged in the purchase, sale, publication, or production of copyrightable material. The League is divided into four departments or guilds, the American Dramatists, the Authors' Guild, the Guild of Free Lance Artists, and the Screen Writers' Guild. The headquarters of the League are at 2 East 23d Street, New York. Officers in 1926 were: president, George Barr McCutcheon; vice-president, Owen Davis; secretary and treasurer, Luise Sillcox; editor, Henry Gallup Paine.

**AUTOMOBILE INSURANCE.** See INSURANCE.

**AUTOMOBILE RACING.** This sport had the distinction of drawing the largest single crowd of the year 1926 to a sporting event, when, on May 31, some 150,000 persons witnessed the annual 500-mile race over the Indianapolis Speedway. It rained so heavily during the contest that at the end of the 175th mile the pilots were called from the track. The race was resumed later, Frank Lochart of Los Angeles being the winner.

The championship for the year was won by Harry Hartz, also of Los Angeles, who had finished second to Lochart in the Indianapolis classic. Hartz was the victor in a 120-mile race at Speedway, N. J., where he established a world record for motors of the ninety-one cubic inch displacement type. At the same place and on the same day he also won a 60-mile race. Later in the year he finished first in the 200-mile race on the Rockingham Speedway and captured the 300-mile contest at Atlantic City. Bennett Hill established new 5-mile and 10-mile records at Charlotte, N. C. in November.

Six well-known drivers were numbered among the fatalities suffered in this sport during the year. They were J. A. Walker, Jack Foley, Elmer Davis, Nick Guglielmo, Benjamin Lawder and Louis Fink.

**AUTOMOBILES.** In 1926 the American automobile industry, for the 29th time in its history, enjoyed a record year, with production, value, and registration in excess of the corresponding figures for 1925. In this connection it is interesting to note that only three times in its history has the American motor industry failed to reach a new high total; one was in the war year, 1918, another in 1921, and the third in 1924. The National Automobile Chamber of Commerce at the end of the year estimated the production of motor vehicles for 1926 as 4,480,000, with a wholesale value of \$3,056,950,000, as compared with 4,336,754 motor vehicles in

1925, with a wholesale value of \$2,977,904,833. Likewise, there was an increase of 3 per cent in the number of motor vehicles exported from the United States and Canada in 1926 over 1925, the estimate for the year being 550,000, valued at \$475,000,000, or 12 per cent of the motor vehicles manufactured being sent abroad. Only 820 motor vehicles were imported into the United States during the year. The export business in motor vehicles and accessories not only had reached large dimensions, but it was believed that within a few years 25 per cent of the American production would be sold abroad.

Of the total number of vehicles already referred to, 3,950,000 were cars, valued at wholesale at \$2,622,450,000, and 530,000 were trucks, valued at wholesale at \$434,500,000, making a total wholesale value of cars and trucks of \$3,056,950,000. Of the cars produced during the year 2,926,000, or 74 per cent, were closed cars. The tire production of the year amounted to 63,000,000, and the wholesale value of motor vehicle tires for replacement was \$775,000,000. The wholesale value of parts and accessories for replacement produced during the year was estimated at \$600,000,000. The average retail price of a motor car in 1926 was \$886, while the average retail price of a truck was \$1090.

The importance of the motor industry was indicated by the fact that 3,500,000 persons were employed in connection with motor vehicles and allied lines. Motor vehicle taxes in 1926 amounted to \$735,226,000, which was close to the total expenditure for highway construction and maintenance during the year. Automobiles and motor products contributed to the total railway shipments an aggregate of 3,160,000 freight car loads, which was a new high record. The world registration of motor vehicles was estimated at 27,500,000, of which there were registered in the United States 22,330,000, or 81 per cent. Of these, 19,520,000 were motor cars and 2,810,000 were motor trucks. On the farms of the United States 4,852,000 motor vehicles were registered, and of 3,001,825 miles of highway, 560,000 miles were surfaced.

The statistics of the National Automobile Chamber of Commerce were further interesting as affording information on retail financing. It was estimated that in 1926, 64 per cent of the new cars were sold on time, and that there was outstanding automobile time paper to the amount of \$1,378,000,000—the average note, at the time of purchase, for new cars being \$505, and in the case of used cars, being \$277. The automobile industry uses 83 per cent of the rubber imported into the United States and 50 per cent of the plate glass produced. It also uses 12 per cent of the copper and 12 per cent of the iron and steel. In 1926, 8,650,000,000 gallons of gasoline were consumed and 560,000,000 gallons of motor oil. In 1926 the crude rubber used in tires aggregated 712,981,000 pounds, and the cotton fabric 227,512,000 pounds.

The motor bus and motor truck continued to increase in use, there being 80,000 buses in 1926 and 15,000 new buses manufactured. Consolidated schools to the number of 15,332 were using motor transportation, and 344 street railway companies were using motor buses. Seven thousand buses in all were used by street railways and 510 by 41 steam railroads. Railroads using gasoline rail motor coaches for short lines numbered 190, and 60 railroads were using motor trucks as

part of their shipping service. In 1926 it was estimated that there were 53,360 car and truck dealers, and 51,715 public garages, 83,758 service stations and repair shops, and 66,584 supply stores.

**AVIATION.** See **AERONAUTICS.**

**AVIATION, NAVAL.** See **VESSELS, NAVAL**, and **NAVAL AVIATION**; **NAVAL PROGRESS** (Remarks on aviation under the head of each nation).

**AZERBAIJAN**, a'zër-bi-jan'. A new state constituted in 1918, consisting chiefly of the two former Russian provinces of Baku and Yelisavetpol; bounded on the east by the Caspian Sea, on the west by Georgia and Armenia, on the south by Persia, and on the north by Georgia, Northern Caucasus, and Daghestan. The official name of the state is the Azerbaijan Socialist Soviet Republic. Area about 33,970 square miles and the population, according to official Russian figures, about 2,096,973, of whom 75 per cent are Moslem. Baku, the centre of the petroleum industry, is the capital and has a population of approximately 250,000. In 1924 there were 1303 schools with 129,000 pupils; also 60 trade-technical schools; 11 teachers' training centres, 3 higher educational institutions, and 6 workers' faculties. The oil industry, which before the war produced almost 10,000,000 tons of oil annually has suffered a severe relapse, probably due to the gradual exhaustion of the wells. In 1924 the production was estimated at only 4,200,000 tons. After the outbreak of the Russian Revolution in 1917, Azerbaijan, Armenia, and Georgia formed a federation, but this broke up after a few weeks, when the three constituent elements each declared its independence. Two months after the *de facto* independence of Azerbaijan was recognized by Great Britain in 1920, the Bolsheviks overthrew the government and thenceforth the government was under Soviet control.

**BADEN**, bi'den. A constituent state of the German Republic, with a republican form of government since Nov. 22, 1918; formerly a grand duchy in the German Empire; bounded by Bavaria on the east and Alsace-Lorraine and the Palatinate on the west. Area, 5819 square miles; population in 1925, 2,312,462, as compared with 2,195,580 in 1919. Capital, Karlsruhe, with 145,694 inhabitants in 1925. The largest city is Mannheim with 247,486 inhabitants in 1925. Of the total population of the state in 1925, 1,115,477 were males and 1,196,985 females. The majority of the population is Roman Catholic. Education is free, general, and compulsory, the schools being under the jurisdiction of the state. For higher education there are universities at Heidelberg and Freiburg. In 1925 the total area under cultivation was 1,998,180 acres. Among the agricultural products, oats, rye, barley, wheat, potatoes, and vegetables are the most important; 36,492 acres were planted to the vine in 1924 and the yield of wine was 7,688,298 gallons. In 1925, 10,982 acres were under tobacco. In 1924 there were 627,697 cattle, 425,296 pigs, 64,120 sheep, 178,491 goats, 67,708 horses. The budget for 1925-26 fixed the ordinary revenue at 201,870,000 gold marks and the ordinary expenditure at 198,740,000 gold marks.

The present constitution dates from Mar. 21, 1919, and vests the executive power in a cabinet comprising the state president, five ministers,

and three state councilors without portfolios, all of whom are elected by the legislature. Legislative power resides in a single chamber body known as the Landtag. The constitution abolishes all privileges of birth and religion and under it women are endowed with the same rights as the men, bring eligible to all public offices. There is universal suffrage for all persons of either sex over 20 years of age. The initiative, referendum, and proportional representation have been introduced. The Landtag, elected on Oct. 25, 1925, for the term ending Oct. 25, 1929, had 72 members distributed among the several parties at the beginning of 1926 as follows: Centre, 28; Socialists, 16; German Democratic Party, 6; Right, 9; German People's Party, 7; Communists, 4; Economic Union, 2. State president at the beginning of 1926, G. Trunk, who also held the post of Minister of Justice. H. Köhler was Minister of Finance and A. Remmele Minister of the Interior and Education.

**BAHA'MAS.** A group of islands north of the British West Indies, off the southeast coast of Florida, 29 in number, of which 20 are inhabited. They also include 661 keys and over 3000 reefs. The islands, which are of coral formation, have an area of 4404 square miles and a population, according to the census of 1921, of 53,031. The estimated population on Jan. 1, 1925, was 55,423. The important islands with their populations in 1921, are as follows: New Providence, containing the capital, Nassau, 12,975; Andros, 6976; Eleuthera, 6048; Long Island, 4659; Abaco, 3993; Exuma, 3730; St. Salvador, 4273. In 1924 the movement of population was: Births, 1640; deaths, 1310. Elementary instruction is compulsory from the ages of 6 to 14. In 1924 there were in the government schools, 6663 pupils; in aided schools, 3011; schools supported by the Church of England, 693 pupils; supported by the Roman Catholics, 464 pupils. For the calendar year 1924, the exports totaled £626,353, and the imports, £1,553,143. The principal exports were sisal, sponge, lumber, tomatoes, shells, and preserved pineapples; principal imports, foodstuffs, spirits, raw materials, and manufactured articles. In 1924-25 the revenue was £420,077 and the expenditure, £415,577. The public debt in 1925 was £17,861. Ship entries in 1924, 1258 vessels of 624,205 tons (440 British of 250,199 tons); clearances, 1267 vessels of 629,112 tons (470 British of 254,689 tons). The islands are administered by a governor who is assisted by an executive council and a legislative council, each of nine members and a legislative assembly of 29 members, the franchise being based on a small property qualification. Governor and Commander-in-chief at the beginning of 1926, Sir H. E. S. Cordeaux, who was succeeded later in the year by Maj. Charles William Orr, who had been Colonial Secretary of Gibraltar. During July the Bahamas were visited by a severe storm which caused severe suffering and considerable loss of life on practically all the islands. It is estimated that in the neighborhood of 200 persons were killed.

**BAKU.** See **AZERBAIJAN.**

**BALKAN STATES.** The collective term applied to those states which make up the Balkan peninsula in southeastern Europe west of the Aegean Sea. See **ALBANIA**, **BULGARIA**, **GREECE**, **JUGOSLAVIA**, **RUMANIA**, and **TURKEY**.

**BALTIC PROVINCES.** (Now **BALTIC STATES**). The name formerly applied to the Russian provinces of Courland, Esthonia, and Livonia, held by Germany for a time during the war and relinquished at the end of 1919. They now comprise the two new republics: Esthonia, formed out of the province of the same name and the northern part of Livonia; and Latvia, formed out of Courland and the southern part of Livonia. See **ESTHONIA** and **LATVIA**.

**BANCROFT, SIR SQUIRE.** English actor-manager, died in London, April 19. He was born in London, May 14, 1841, and was educated in private schools in England and France. His first appearance on the stage was in 1861 at the Theatre Royal in Birmingham, a reversal of family fortunes making necessary his securing remunerative employment at that time. For four years he was engaged with various companies in the provinces, playing at theatres in Dublin, Cork, Birmingham, and Liverpool, and in 1865 he became a member of the company, at the Prince of Wales Theatre, formed by Miss Marie Wilton and H. J. Byron, appearing in *A Winning Hazard*. In 1867 he married Miss Wilton and became a manager, acting in various comedies at the Prince of Wales Theatre which were remarkably successful. Among his rôles played in the Robertson comedies were, Sidney Daryl, and, later Tom Stylus, Angus MacAlister and later Hugh Chalcot in *Ours*; Captain Hawtree in *Caste*; and Chevalier Browne in *Play*; Jack Poyntz in *School*; and Talbot Piers in *M.P.* He also played Joseph Surface in *The School for Scandal*; Orloff in *Diplomacy*; Loris Ipanoff in *Fedora*; and Triplet in *Masks and Faces*. Bancroft and his wife instituted many reforms at the Prince of Wales Theatre, and raised the standard of acting and production in many important respects. They introduced to London such actors as Sir John Hare, Kyrle Bellew, and William Terriss. The theatre proved increasingly profitable and enjoyed popular support and in 1880 Bancroft moved from the Prince of Wales to the Haymarket. In 1885 he and his wife retired from management, and subsequently acted with Irving in the revival of *The Dead Heart* at the Lyceum in 1889, and with Sir John Hare in *Diplomacy* at the Garrick in 1893. In 1897 he was knighted in recognition of his "notable services to his profession," and he served as president of the Actors' Association, and in a number of theatrical and other charities. He was a man of great culture, and his influence on the English stage was second to none. He had visited America in 1859 and again in 1868. He was a joint author, with his wife, of *On and Off the Stage*, 1888; and author of the *Bancroft Recollections of Sixty Years*, 1909.

**BANKERS ASSOCIATION, AMERICAN.** The dominant national organization of banks in the United States. It has a membership of over 21,000 banks, out of a total of 28,000 banks in the country, and comprises among its members an estimated 90 per cent of the nation's aggregate banking capital funds of \$7,800,000,000 and total resources of \$65,000,000,000. The Association has four major divisions, each devoted to the special interests, technical advancement and general welfare of the respective classes of banks indicated in their titles, as follows: the National Bank Division, the Savings Bank Division, the State Bank Division, and the Trust Company Division. Within the organization there are also

three sections devoted to general inter-bank interests as follows: the American Institute of Banking Section, which is the educational arm of the organization, with an enrollment of 35,000 students from banks in all parts of the country and a general membership of 57,000; the Clearing House Section, which promotes the organization of city and county bank groups for the purpose of facilitating business transactions and common welfare through clearing houses, clearing house examiner systems, and mutual credit bureaus; and the State Secretaries Section, which forms a link between the national organization and the state bank associations that exist in every state. There is also a Protective Department which prosecutes continually a country-wide campaign of prevention, protection, and investigation for all member banks, in respect to criminal operations against banks. The Association conducts, also, a Legal Department, which keeps bankers informed on developments in the field of banking law and watches the interests of banking and the public in both state and national legislation, in connection with the State and Federal Legislative Committees and Councils of the Association, which seek to present the best banking viewpoints to the legislators.

In commemoration of its fiftieth anniversary, the Association founded the American Bankers Association Educational Foundation, to gather a fund of \$500,000 to be employed in furtherance of scholarships and research in banking and finance in colleges. The organization, through its Public Relations Commission, conducts nationwide activities in behalf of better common understanding regarding banking and its activities through the press, and also, through its Public Education Commission, conducts lectures on banking and business in schools and civic clubs throughout the country. Its Commerce and Marine Commission conducts, and makes public, researches in regard to transportation and international commerce of the United States; the Economic Policy Commission devotes its activity to subjects of general economic concern, such as the Federal Reserve System, installment selling, and other topics; the Agricultural Commission devotes itself to investigating the relations between bankers and farmers and to promoting better farm economics and rural financial conditions.

In addition, the Association supports a number of specialized committees for special investigations and activities. Throughout its career it has stood for and vigorously promoted sound currency, banking, and business policies, and from time to time has exerted itself in behalf of specific economic matters making for the welfare not only of banking, but of the nation as a whole.

During 1926 the most important action in respect to legislation was the endorsement in annual convention and activity in furtherance of the McFadden Bill without the Hull Amendments, a measure aimed to modernize the national bank law and to equalize the privileges of national banks with those of state chartered banks, to recharter the Federal Reserve Banks for an indeterminate period, and to restrict branch banking within the Federal Reserve System on conditions equitable with such branch banking privileges as are enjoyed by state banks. In the fall of the year the Association holds its annual convention, which, as the supreme

authority, draws up the organization's policies. In the spring it holds a meeting of its Executive Council, a representative body proportioned to the membership in all the states, and qualified to take action upon certain Association matters.

The continuing activities of the Association are carried on by a permanent staff functioning in the national headquarters of the organization at 110 East 42d Street, New York City, under the direction of the Executive Manager, Fred N. Shepherd. The officers for 1926 were: president, Melvin A. Taylor, President First Trust and Savings Bank, Chicago; first vice-president, Thomas R. Preston, President Hamilton National Bank, Chattanooga, Tenn.; second vice-president, Craig B. Hazlewood, vice-president Union Trust Company, Chicago; treasurer, Nathan D. Prince, president Hartford-Connecticut Trust Company, Hartford, Conn. There is also an Administrative Committee, composed of fifteen members including the national officers, heads of the various divisions and sections, and certain others, which stands as the ad interim governing authority between meetings of the convention and the Executive Council.

**BANKS AND BANKING.** See FINANCIAL REVIEW; NATIONAL BANKS.

**BAPTISTS.** In 1926 there were in the United States 14 bodies comprising that branch of the Christian Church known as Baptists, which numerically constituted the second largest Protestant group. While the Baptists trace their origin to the Protestant Reformation in the sixteenth century and churches were found in that period in Germany and Switzerland, the first Calvinistic Baptist Church was formed in London in 1638 and the first Baptist church in America was probably established by Roger Williams in Providence, R. I., in 1639, although this honor is disputed by the First Baptist Church of Newport, R. I., organized the same year or shortly after. As a result of political differences, and particularly on account of the question of slavery prior to the Civil War, the Southern Baptists withdrew from the national organization in 1845, forming the Southern Baptists Convention, which, since that time has functioned not as a new denomination, but as an organization for the purpose of directing missionary and general evangelistic work in the churches of the Southern States. A National Baptist conference representing the negro churches was also formed. In addition to the main body, other divisions early began to appear. These were known as "Primitive," "United," "General," "Free," etc. In its polity the church is congregational, each church being sovereign as to its own discipline and worship. Applicants for the ministry are licensed to preach by the church in which they hold membership.

Statistics prepared by the *American Baptist Year Book* in 1926 showed in the United States a total of 57,215 churches, with 48,793 ordained ministers; 2168 local associations; and 355,152 baptisms during the year, making a membership of 8,327,202. Sunday schools numbered 47,151, with an enrollment of 5,105,411. Church property was valued at \$391,981,700, and contributions amounted to \$74,810,831, of which \$59,445,872 was for current expenses and \$15,364,959 for benefices. These figures were divided among the three main groups of the denomination as follows: The Northern Baptist Convention, composed of 38 State conventions, reported 8393

churches; 425 associations; 9073 ministers; 72,165 baptisms during the year; 1,381,600 church members; 7386 Sunday schools with a membership of 1,338,202; and contributions amounting to \$3,612,990. The Southern Baptist Convention consisted of 18 State conventions, and had 26,435 churches; 986 associations; 19,808 ministers; 3,648,516 members, of whom 224,191 were baptized during the year; 21,760 Sunday schools, with 2,692,860 members; and a contribution of \$39,049,488. There were 26 Negro Baptist Conventions with 22,412 churches; 758 associations; 20,050 ministers; 3,310,969 church members, 59,370 of whom were additions; 1,088,986 Sunday school scholars in 18,032 schools; and \$4,548,765 in contributions.

In the Dominion of Canada there were three conventions; churches numbered 1287; ministers 804; members 141,027, 6237 being additions; 1156 Sunday schools, and 111,274 scholars; and contributions to the amount of \$2,991,367. There were 87 churches in Mexico, with 52 ministers and 6293 members.

The denomination maintains in the United States and Canada 248 educational institutions, which in 1926 had 83,397 students, 5188 instructors, property and endowments valued at \$92,388,000, and an income for the year of \$20,574,123. Of these institutions, the Northern Baptists maintained 62, the Southern Baptists 120, the Colored Baptists 61, and 8 were in the Dominion of Canada. There were 33 orphanages, 23 homes, and 35 hospitals under the direction of the denomination. Large staffs of workers were engaged in home missions and in foreign missions in India, Burma, China, Japan, the Congo, the Philippines, and European countries.

In addition to several unorganized groups of foreign-speaking Baptists in North America, there are the following organized bodies which hold their own conferences: German, Swedish, French-speaking Baptists of New England, Finnish Baptist Mission Union, American Magyar (Hungarian), Italian, Danish, Norwegian, Czechoslovak, Polish, Rumanian Baptist Association, Portuguese Baptist, and Russian Baptist Conferences. Statistics for these bodies in 1926 were as follows: Churches, 909; ministers, 714; baptisms, 4183; membership, 81,054; Bible schools, 895; Bible School enrollment, 84,788; property valuation, \$10,069,900; contributions, \$2,193,316.

Smaller branches of the denomination, differing in various respects from the main branches of the church, include the following: Six-Principle Baptists (The International Old Baptist Union), Seventh-Day Baptists, Free Will Baptists, Colored Free Will Baptists, Free Will Baptists (Bullockites), General Baptists, Separate Baptists, Regular Baptists, United Baptists, Duck River Primitive Baptists (Progressive), Scandinavian Independent Baptists, and Two-Seed-In-The-Spirit Predestinarian Baptists. See also BAPTISTS, FREE.

The denomination maintains several publishing houses, of which the most important is the American Baptist Publication Society in Philadelphia. The official periodical of the Northern Baptist Convention is *The Baptist* (Chicago); of the National Baptist Convention, the *National Baptist Voice* (Nashville); while many sectional publications represent the Southern Baptist Convention.

The Baptist World Alliance was organized in 1905 and meets every five years; the last meet-



ing was held in July, 1923, in Stockholm, Sweden. Its relationship to the Baptist churches is purely advisory and its purpose is discussion of interests common to the denomination. The *British Baptist Hand Book* for 1924 prepared the following statistics of the denomination in 1925:

	<i>Churches</i>	<i>Ministers</i>	<i>Members</i>
America .....	60,484	49,419	8,254,778
Europe .....	12,883	4,661	1,626,188
Asia .....	3,188	1,837	812,260
Africa .....	562	251	50,888
Australasia .....	449	350	32,065
Total .....	77,566	56,519	10,276,179

**BAPTISTS, FREE.** A branch of the Baptist denomination, which by 1926 had practically completed its policy of merging with the Northern Baptist Convention. During the year there was but little independent activity of the Free Baptists, yet the General Conference of Free Baptists, the national incorporated organization, still preserved its legal existence and powers. Estates in which life interests terminated or other entailments were removed, were still coming to its treasury. The majority of Free Baptist ministers, churches, and members were included in the enumeration of the Northern Baptist Convention. Alfred Williams Anthony was serving as corresponding secretary and treasurer. See BAPTISTS.

**BAR ASSOCIATION, AMERICAN.** A national association organized in 1878 to advance the science of jurisprudence, the administration of justice, harmony in legislation, and the observance of legal precedents throughout the United States, as well as to uphold the legal profession and promote good understanding among its members. The forty-ninth annual convention, held at Denver, Colo. July 14-16, 1926, in connection with those of the National and International Associations of Attorneys-General, was attended by 2109 delegates. The retiring president, Chester I. Long, speaking on the "Advance of the American Bar," summarized the work of the Association throughout the years of its existence, as well as American judicial development during that period, and emphasized the necessity for the Association to oppose the tendency of the National government to destroy the liberty of State governments, thus destroying the liberty of the people. Roscoe Pound, dean of Harvard Law School, chose as his subject "The Canons of Procedural Reform," suggesting several needed reforms in legal procedure, the most important of which was that in cases of appeals to a higher court from a lower, the appeal should be taken not as to a separate court, but as to another branch of the same court. Other speakers were Robert G. Dodge of Boston, on "The Judicial Council," who made the statement that one of the greatest lacks of United States judicial procedure was an officer or board charged with the responsibility of studying and determining the needs of the courts; and Edson R. Sunderland of Ann Arbor, Mich., on "Exercise of the Rule-Making Power," regretting the tendency toward centralization of power in the United States. The convention adopted a resolution expressing its desire to cooperate with the Veterans' Bureau in caring for the right of so-called "orphans" cases." It endorsed the action of Kansas, Illinois, West Virginia, and Ohio in raising the standard of

requirement for admission to the bar, and urge closer cooperation between its members and the press. The taking of testimony to fix the responsibility for alleged derelictions of the American judiciary was begun. Reports of committee adopted without opposition were those of the Committees on Revision of Federal Statutes Admiralty and Maritime Law, Change of Date of the Presidential Election, Legal Aid, Aeronautics, Insurance, and the Incorporation of the American Bar Association. Officers elected at the convention were: Charles S. Whitman, New York, president; Frederick E. Wadhams of Albany, re-elected treasurer for the 26th consecutive time; and William P. McCracken, Chicago, secretary. Frederick E. Wadhams died September 5, 1926, and Edward Kaestner Albany, was appointed acting treasurer. Headquarters of the Association are 1119 The Rookery, 209 So. LaSalle St., Chicago, Illinois.

**BARBADOS.** An island colony of Great Britain, lying to the east of the Windward Islands; the most westerly of the Caribbean Islands. The area is 166 square miles and the population, according to the census of 1921, 156,312; estimated, Dec. 31, 1924, 159,499. The capital and chief city is Bridgetown, with a population of 13,486. In 1924 the average attendance in the elementary schools was 13,676 out of an enrollment of 21,729. In 1924 there were 5227 births and 4692 deaths. The figures in pounds sterling for revenue, expenditure, imports and exports, and public debt for 1924-25 were as follows:

Revenue .....	£504,696
Expenditure .....	365,531
Imports .....	2,556,297
Exports .....	1,858,301
Public debt .....	591,000

The principal imports were cotton manufactures, manures, flour, dried fish, machinery, salt beef and pork, and rice. The principal exports were sugar, molasses, raw cotton, and rum. The administration is under a governor assisted by an executive council, an executive committee, a legislative council of nine members appointed by the king, and an assembly of 24 members elected annually by the people. Governor at the beginning of 1926, W. C. F. Robertson.

**BARLEY.** The world's barley production in 1926, exclusive of the Soviet Republics for which data for the year were not available, but which produced 239,628,000 bushels in 1925, was over 11% above the average production for the five years 1920 to 1924, but was over 5% below the production in 1925 although the acreage was practically the same according to estimates reported by the International Institute of Agriculture at Rome. The total production of the countries reporting estimates amounted to 1,106,100-900 bushels in 1926 and to 1,168,130,000 bushels in 1925 while for the five years 1920 to 1924 it was 994,778,100 bushels. The leading barley-producing countries and their yields were reported as follows: Germany 120,353,600 bushels, Canada 105,086,000 bushels, Spain 95,021,000 bushels, Roumania 77,390,600 bushels, Japan 77,177,900 bushels, Poland 73,750,800 bushels, France 54,016,500 bushels and Czechoslovakia 51,335,200 bushels. Of these countries France reported an increase of 14.5% and Roumania of 65.3% over the production of the preceding year.



In South America, Argentina in the crop year 1925-26 produced 17,054,800 bushels and Chile 5,294,000 bushels.

The United States, as estimated by the Department of Agriculture, produced in 1926 191,182,000 bushels on 8,200,000 acres, or at the rate of 23.3 bushels per acre as compared with a crop of 216,554,000 bushels on 8,088,000 acres, the rate being 26.8 bushels per acre, in 1925. The average farm price Dec. 1, 1926, was 57.4 cents per bushel as against 58.9 cents on the corresponding date the year before, making the total value of the crops \$109,677,000 and \$127,453,000 respectively. The yields of the leading barley-producing States were reported as follows: Minnesota 32,675,000 bushels, California 32,400,000 bushels, North Dakota 21,050,000 bushels, Wisconsin 17,974,000 bushels and Illinois 12,710,000 bushels. North Dakota led in area with 1,472,000 acres, with Minnesota standing next with 1,307,000 acres, these being the only States with more than a million acres. The average farm price December 1, 1926, in the different States ranged from 46 cents in North Dakota to \$1 per bushel in North Carolina. During the year ended June 30, 1926, the United States exported 27,182,000 bushels of barley, or 3,529,000 bushels more than during the preceding fiscal year. Official barley standards divided into classes on the basis of the section where grown, to adapt them to the grain produced under the different conditions obtaining in the Middle West as compared with the Pacific Coast area, were established after public hearings on the subject were held, and became effective Aug. 24, 1926.

**BARNARD COLLEGE.** See COLUMBIA UNIVERSITY.

**BASEBALL.** Professional baseball retained its grip on the American sport-loving public in 1926 when all past attendance records were eclipsed. The National League, profiting through an unusually exciting pennant race, reported a total paid attendance at its games of 4,950,000 and there is no reason to doubt but that the American League at least held its own in this regard although no official figures were published. The world series contested between the St. Louis Cardinals of the National League and the New York Yankees of the American League shattered all marks both for attendance and receipts. The seven games constituting the series attracted 328,051 persons who paid \$1,207,864 through the turnstiles. The prosperity of baseball was emphasized in the reelection of Judge Kenesaw Mountain Landis as Commissioner for a seven-year term at a salary increase of \$15,000, making his annual stipend, \$65,000.

The winning of the National League pennant by the St. Louis Cardinals was especially welcome to a large majority of fans inasmuch as it marked the first flag triumph for a St. Louis team since 1888. The Cardinals' victory came only after a most closely contested race in which the Cincinnati Reds and the Pittsburgh Pirates were contenders until within a few days of the close of the season. The New York Yankees also had a hard struggle, winning out over the Cleveland Indians by a margin of only three games.

The statistics of the world series which was won by the Cardinals, four games to three, follow:

First game, Yankees, two runs, six hits, one error; Cardinals, one run, three hits, one error. Batteries,

Pennock and Severoid; Sherdal, Haines and O'Farrell.

Second game, Cardinals, six runs, twelve hits, one error; Yankees, two runs, four hits, no errors. Batteries, Alexander and O'Farrell; Shocker, Shawkey, Jones and Severoid, Collins.

Third game, Cardinals, four runs, eight hits, no errors; Yankees, no runs, five hits, one error. Batteries, Haines and O'Farrell; Ruether, Shawkey, Thomas and Severoid.

Fourth game, Yankees, ten runs, fourteen hits, one error; Cardinals, five runs, fourteen hits, no errors. Batteries, Hoyt and Severoid; Rhem, Rheinhardt, H. Bell, Hallahan, Keen and O'Farrell.

Fifth game, Yankees, three runs, nine hits, one error; Cardinals, two runs, seven hits, one error. Batteries, Pennock and Severoid; Sherdal and O'Farrell.

Sixth game, Cardinals, ten runs, thirteen hits, two errors, Yankees, two runs, eight hits, one error. Batteries, Alexander and O'Farrell; Pennock and Severoid.

Seventh game, Cardinals, three runs, eight hits, no errors; Yankees, two runs, eight hits, three errors. Batteries, Haines, Alexander and O'Farrell; Hoyt, Pennock and Severoid.

The two outstanding players of the series were Grover Cleveland Alexander, veteran pitcher of the Cardinals, and George Herman (Babe) Ruth, the mighty slugger of the Yankees. Alexander's steady pitching was largely responsible for the winning of the second and sixth games by St. Louis and in the seventh and decisive contest Alexander went to the mound with the bases full and retired the Yankees without a run. He then held the opposing batters in check for the remainder of the game. In the fourth battle Ruth broke loose in a batting orgy with three home runs, breaking all records for homers in a single game—total bases, extra bases on long hits and other items.

George Burns, the Cleveland first baseman, was voted the most valuable player in the American League while in the National this honor went to Robert O'Farrell, St. Louis catcher. The leading pitchers of the year were Ray Kremer of the Pittsburgh Pirates and George Uhle of the Cleveland Indians. Charles Hargrave of the Cincinnati Reds and Henry Manush of the Detroit Tigers were the leading batsmen.

Followers of baseball received a double shock in December, the first being testimony given out by Commissioner Landis to the effect that Tyrus Raymond Cobb, Tristram Speaker and Joseph Wood were involved in a plot to "throw" a game on Sept. 25, 1919, and the second the charges of Charles A. (Swede) Risberg, one of the players expelled from baseball in connection with the world series scandal of 1919, that several players including Ray Schalk and Edward Collins had contributed to a purse which was turned over to certain Detroit players in 1919 as a reward for their "sloughing" a series of games between the Chicago White Sox and the Detroit Tigers. The White Sox at the time were having a close race with the New York Yankees for third place money. Commissioner Landis after a hearing at Chicago announced that he would render a decision in the Risberg case on Jan. 12, 1927. As for the charges against Cobb, Speaker and Wood the Commissioner declared that inasmuch as all three of these players were out of baseball he did not feel it necessary to take any action.

The biggest trade in the history of baseball since the acquisition of Babe Ruth from the Boston Red Sox by the New York Yankees took place in December when Captain Frank Frisch of the New York Giants and James Ring, pitcher, were traded to the St. Louis Cardinals for Manager Rogers Hornsby.

The final standing of the clubs in the National

League was: St. Louis won 89, lost 65; Cincinnati won 87, lost 67; Pittsburgh won 84, lost 69; Chicago won 82, lost 72; New York won 74, lost 77; Brooklyn won 71, lost 82; Boston won 66, lost 86; Philadelphia won 58, lost 93.

The final standing in the American League was: New York won 91, lost 63; Cleveland won 88, lost 66; Philadelphia won 83, lost 67; Washington won 81, lost 69; Chicago won 81, lost 72; Detroit won 79, lost 75; St. Louis won 62, lost 92; Boston won 46, lost 107.

The pennant winners in the more important minor leagues were: International, Toronto; Pacific Coast, Los Angeles; American Association, Louisville; Southern, New Orleans; Texas, Dallas; Eastern, Providence; Western, Des Moines. Holy Cross, Fordham, Georgetown and New York University all had high class nines.

**BASKETBALL.** This indoor sport thrived amazingly during 1926, when it was estimated by officials governing the game that close to 15,000,000 persons took part in the various contests throughout the United States. The problem appeared to be to provide sufficient seating facilities for the constantly growing number of spectators. This was particularly true in the college world. Columbia University won the championship of the Eastern Intercollegiate League with a record of nine victories and one defeat. Dartmouth finished second with six games won and four lost. Princeton, Pennsylvania and Cornell tied for third place, winning five games and losing the same number. Yale finished in last place, failing to score a single victory. Indiana, Michigan, Purdue and Iowa tied for first place in the Western Intercollegiate Conference with eight victories and four defeats each.

The annual national tournament of the Amateur Athletic Union was held at Kansas City, championship being won by the Hillyards of St. Joseph, Mo., who defeated the Kansas City A. C. in the final game by a score of 25 to 20. The women's basketball championship of the world was captured by the Newmann-Stern five of Cleveland, Ohio, through the defeat of the Edmonton team of Canada. The American Professional Basketball title went to the Cleveland Rosenblums.

**BATES COLLEGE.** A non-sectarian co-educational college, at Lewiston, Me.; founded in 1864. For the fall term of 1926 there were 642 students, 368 of whom were men and 274 women; in the summer session there was a total of 266, of whom 116 were men. The faculty and administrative officers numbered 46. The year 1926 saw the construction of an addition to the Chemical Laboratory costing \$25,000, and the building of a Physical Education Plant at a cost of \$350,000, three units of which, an indoor athletic field, a men's locker building and a women's locker building, were the gift of a single donor, and the fourth unit, the gymnasium, was provided for by the alumni. A system of honor courses was adopted by the faculty. The permanent funds amounted to \$1,750,000; the total expenditures for the year were \$221,918.04. The budget involved an appropriation of \$257,974.91. The library contained 53,500 volumes. President, Clifton Daggett Gray, Ph.D., LL.D.

**BATESON, WILLIAM.** British biologist, died at Merton, Surrey, February 8. He was born at Whitby in 1861, and was educated at Rugby and

St. John's College, Cambridge where he was Balfour Student, 1887-90. He received the Darwin Medal of the Royal Society in 1904, and in 1908-09 was Professor of Biology at Cambridge University.

He was Fullerian Professor of Physiology at the Royal Institution, 1912-14, and in 1907 he had been Silliman Lecturer at Yale University. He was made director of the John Innes Horticultural Institution at Merton Park, Surrey, 1910, and in 1914 was made president of the British Association for Advancement in Science at its meeting in Australia. He was a member of many learned societies including the National Academy of Science in Washington, and wrote many valuable papers and publications on biological subjects of which the more notable were: *Materials for the Study of Variation*, 1894; *Problems of Genetics*, 1913; *Mendel's Principles of Heredity*, 1920. Had he lived, he would have been president of the Botanical Section of the British Association at its Oxford meeting in August, 1926.

**BATTLE CRUISER.** See VESSELS, NAVAL; NAVAL PROGRESS.

**BATTLESHIPS.** See VESSELS, NAVAL; NAVAL PROGRESS.

**BAUERMEISTER**, bou'ër-mi-stär, MATILDE. A British operatic soprano, died at Herne Bay, Kent, October 15. Although born in Hamburg, in 1849, she spent almost her whole life in England. After graduation from the Royal Academy of Music in London she began her career at Her Majesty's Theatre. In 1885 she sang for the first time in America, during Colonel Mapleson's season at the Academy of Music in New York, and later, during the administration of Maurice Grau, she was a regular member of the Metropolitan Opera Company. In the annals of opera she occupies quite an exceptional position. Lacking a dominating personality and a really remarkable voice, she, nevertheless, achieved distinction in minor rôles and won considerable popularity with her audiences. The full consciousness of her natural shortcomings did not prevent her studying all the principal rôles of the current repertory, not with any hope of ever becoming one of the brilliant stars, but solely for the personal gratification of her artistic instinct. On several occasions, however, she was rewarded, when, in the case of sudden indisposition of the principal artist, she was asked to assume the rôle, thus saving the management the embarrassment of changing the opera. She retired from the stage in 1905.

**BAUMES LAWS.** See CRIME.

**BAUXITE.** In 1925, 316,540 long tons of bauxite, valued at \$1,988,250, were produced in the United States, of which Arkansas contributed 296,320 tons, valued at \$1,878,450. Georgia, Alabama, and Tennessee, with an aggregate production of 20,200 tons, valued at \$109,800, were also producers. The bauxite imported into the United States for consumption in 1925 totaled 353,696 tons, valued at \$1,549,120, while the exports of bauxite, including bauxite concentrates, amounted to 78,633 long tons, which were valued at \$4,134,455.

The production of bauxite in 1926 increased in the United States over that of 1925. The principal source of supply continued to be Arkansas, which shipped bauxite to the alumina plant at East St. Louis. In Alabama the U. S. Bureau of Mines

Experiment Station at Tuscaloosa began an investigation of the possibilities of using low grade bauxite, of which there was considerable in the eastern field. The imports of bauxite came, for the most part from South America, three-quarters of the 1926 imports being from that source. The remainder came from southern Europe, principally Dalmatia. French bauxite production was said to be somewhat larger in 1926 than in 1925, while the Dalmatian output was more than doubled. Large reserves of bauxite in Hungary were being developed during the year to supply the German aluminum industry.

**BAVARIA.** A constituent state of the German Republic; formerly a kingdom within the German Empire, ruled for more than a century by the Wittelsbach dynasty, which was deposed after the revolution following the World War. The new state adopted a republican form of government on Nov. 22, 1918. Area, 29,334 square miles; population, according to the census of 1919, 7,140,340; according to the census of 1925, 7,350,594. Chief cities: Munich, with a population of 680,704 in 1925; Nuremberg, 392,494; Augsburg, 165,522; Ludwigshafen, 101,869. In 1924 there were 46,520 marriages; 167,400 living births; 4569 still births; and 99,958 deaths. The religious division of the population of Dec. 1, 1925, was: Roman Catholics, 5,164,786; Protestants, 2,110,327; Jews, 49,163. Education is compulsory between the ages of six and 16. In 1924 the chief crops with their areas and yields were as follows: Wheat, 643,497 acres, 300,019 metric tons; rye, 965,680 acres, 377,538 tons; oats, 1,103,317 acres, 484,535 tons; potatoes, 926,722 acres, 3,628,941 tons; vines, 50,310 acres, 11,764,896 gallons; hops, 24,982 acres, 4737 tons. The census of livestock in the same year showed 397,236 horses, 3,575,689 cattle, 629,421 sheep, 1,817,730 pigs, and 501,970 goats. No later statistics on mineral production are available than those given in the preceding YEAR BOOK.

The constitution dates from Aug. 14, 1919. Under it, the supreme power is vested in the people, who are represented by a diet of one chamber elected for four years on a basis of universal, equal, direct, secret, and proportional suffrage, all citizens over 21 years of age having the right to vote. There is one representative for every 62,000 inhabitants, making a legislature of 129 members. The various parties represented in the Bavarian National Constituent Assembly (elected April and May, 1924) were as follows: Bavarian People's Party, 46; Social Democrats, 24; Völkischer Bloc, 13; National Socialists, 6; German Nationals and National Liberals, 14; Bavarian Peasants' and Middle-Class Union, 11; Communists, 8; others, 7. The cabinet as constituted at the beginning of 1926 was as follows: Premier and Minister of Foreign Affairs, Dr. Held; Education, Dr. Matt; Commerce and Industry, Dr. von Meinel; Social Welfare, Herr Oswald; Agriculture, Professor Fehr; Interior, Herr Stuetzel; Finance, Dr. Krausneck; Justice, Herr Gürtner.

**BAX, ERNEST BELFORT.** British lawyer and socialist, died in London, England, November 26. He was born at Leamington, July 23, 1854, and was educated privately in London and Germany where he studied music and also philosophy. He was a foreign correspondent in 1880-81; returning to England became one of the founders of the English Socialist Move-

ment. In conjunction with William Morris, he helped to start the Socialist League in 1885, and was associated with him as a co-editor of the weekly journal *Commonweal*. He resigned later from the Socialist League, becoming connected with the Social Democratic party, and was the editor of its organ *Justice*. He was a delegate of the Social Democratic Federation to various international congresses, and was a prolific writer on Socialism. His works included: *Jean-Paul Marat* (1878); *Kant's Prolegomena*, etc., with Biography and Introduction (1882); *Handbook to the History of Philosophy* (1884); *Religion of Socialism* (1886); *Ethics of Socialism* (1889); *French Revolution* (1890); *Outlooks from the New Standpoint* (1891); *The Problem of Reality* (1893); *German Society at the Close of the Middle Ages* (1894); *Socialism, its Growth and Outcome* (in conjunction with the late William Morris) (1894); *Outspoken Essays on Social Subjects* (1897); *The Peasants' War in Germany* (1899); a new *Life of Marat* (second edition) (1901); *Rise and Fall of the Anabaptists* (1903); *Essays in Socialism, New and Old* (1906); *The Roots of Reality* (1907); *The Last Episode of the French Revolution* (1911); *Problems of Men, Mind, and Morals* (1912); *German Culture, Past and Present* (1915); *Reminiscences and Reflections* (1918); and *The Real, The Rational, and the Alogical* (1920).

**BEAN BEETLE, MEXICAN.** See ENTOMOLOGY, ECONOMIC.

**BEATTY, FRANK EDMUND.** American naval officer, died at Charleston, S. C., March 17. He was born at Azatlan, Wis., Nov. 26, 1853, and, after graduating at the United States Naval Academy in 1875, served through the various grades, being promoted to captain July 1, 1908, and to rear admiral Apr. 27, 1912. He retired from active service on Nov. 26, 1915, but when the United States entered the World War in 1917 was called to active duty and sent to the command of the Sixth Naval District with headquarters at Charleston, S. C. He commanded the United States battleship *Wisconsin* on a world tour in 1908, and was commandant of the Navy Yard at Washington, and superintendent of the Naval Gun Factory, 1910-13. In 1914, on the U. S. S. *Florida* as flag ship, he commanded the first division of the Atlantic Fleet, and in January, 1915, was appointed commander at the Navy Yard in Norfolk, Va. He made his home at Washington after his retirement.

**BEAUX-ARTS INSTITUTE OF DESIGN.** A school of fine arts in New York City, planned after the Ecole des Beaux Arts in Paris, organized in 1916 by the Society of Beaux-Arts Architects. The Institute maintains a school of sculpture at its headquarters, and offers prizes in architecture, sculpture, mural painting, and interior decoration to students in schools of recognized standing throughout the United States. Working under the auspices of the Institute in these schools in 1925-26 there were 1340 architectural students, 165 students of sculpture, 80 in mural painting, and 82 in interior decoration. Various prizes and scholarships are offered to these students through the Institute, the most important being: The Paris Prize of \$3000 given by the Society of Beaux-Arts Architects for two and one-half years' study in architecture at the Ecole des Beaux Arts in Paris; three scholar-

The cabinet as organized on June 17, 1925, was as follows: Prime Minister and Minister of Justice, Vicomte P. Poulet; Foreign Affairs, E. Vandervelde; Education, Cam. Huysmans; Interior, Baron Rolin-Jacquemyns; Agriculture, Count P. de Liedekerke; National Defense (ad interim), Vicomte Poulet; Public Works, A. Laboulle; Finance, A. Janssen; Colonies, H. Carton; Industry and Labor, Joseph Wauters; Railways, Marine, Posts and Telegraphs, E. Anseele.

### HISTORY

**SITUATION AT THE BEGINNING OF THE YEAR.** Unquestionably the outstanding event in Belgium in the early part of the year was the death of the beloved Cardinal Mercier (q.v.), who won world wide fame during the war because of his staunch defiance of the German military government in the interests of the Belgian people. The settlement of the war debt as described in the preceding YEAR BOOK was ratified by the Belgian parliament with only two dissenting votes, although later on in the year there was severe criticism of the arrangement on the grounds that it was too harsh. One problem that interested parliament and the people to no slight degree was the question of the reduction of the armed forces of the nation. General Kesten, the Minister of Defense, in introducing his 1926 army bill suggested that service with the colors should be reduced to ten months. The Democrats and Socialists with the press behind them demanded that this provision be made retroactive so as to apply to the 1925 class also. General Kesten bitterly opposed this move, and, upon finding himself not backed up by the majority of the cabinet, resigned. His resignation was accepted on January 18. General Maglinse, Chief of the Belgian Staff, resigned on January 22, for the same reason. Industrial disturbances were also more or less rife at the beginning of the year. The general strike in the metal working industries was settled by a compromise between the workers and the employers.

**THE FALLING FRANC.** During the months of March the country first experienced the woes of a rapidly declining currency, which was to cause so many radical moves later on in the course of the year. From March 15 to March 26, the franc dropped from 4.04 to 3.97 cents. Many blamed the drop at that time on the failure of the United States Senate to ratify the debt agreement, although this was vigorously denied by both the Belgian and American governments. Competent observers declared that the fall of the franc was due to fear in the London market that Belgium would not be able to balance its budget, and, consequently, would not be able to float the international loan that she wanted. This resulted in the sale of Belgian francs with the consequent glutting of the market and the severe fall in exchange rates. A small cabinet crisis was precipitated by the drop in the value of the franc. There was some talk of overthrowing the Janssen government but it came to naught at the time probably due to the absence of Emile Vandervelde at Geneva. The Ministry of Economic Affairs was abolished and its duties incorporated with that of the Minister of Agriculture. Count Liedekerke was named Minister of Agriculture in place of M. Van de Vyvere, who resigned.

As a temporary means of staying the falling franc the buying of foreign exchange was suspended, and the holders of bank notes were permitted to receive gold for them on terms of exchange laid down by the government. On May 6, Albert Janssen, Minister of Finance, resigned, which move was followed by a further decline in the value of the franc. The press stated that his resignation was caused by his failure to handle in a satisfactory manner the various and growing problems of Belgian finance, particularly his failure to float a \$150,000,000 stabilization loan among British and American bankers. His resignation was in quick succession to the resignations of Henri Carton, Minister of Colonies, and Baron Edouard Rolin-Jacquenupus, Minister of the Interior. These resignations precipitated a cabinet crisis at a time when Belgium could least stand it.

**CABINET RECONSTRUCTION.** On the day after Janssen's resignation, Premier Poulet made an effort to reform the ministry by asking the Catholic Party to join a coalition. The Catholic Party refused to do so on the grounds that an entire new ministry was necessary. The Socialist leader, M. Brunet, was unsuccessful in his attempt to organize a ministry because the Liberals refused to join his ministry unless it was limited to the question of finance. On May 22, Henri Jaspar of the Catholic Party, and former Minister of Foreign Affairs, finally formed a group to run the government. It was made up as follows: Premier, Minister of the Interior, and Health, Henri Jaspar; Justice, Paul Hymans; Finance and the Colonies, Baron Maurice Houtart; Agriculture and Public Works, Henri L. Baels; National Defense, Charles de Broqueville; Foreign Affairs, Emile Vandervelde; Sciences and the Arts, Camille Huysmans; Industry, Labor, and Social Welfare, Joseph Wauters; Railroads, Posts, Telegraphs, Marine, and Aeronautics, Eduard Anseele; Minister without Portfolio, Emile Francqui. Premier Jaspar immediately announced that the entire resources and energy of the cabinet would be turned toward the restoration of the franc and the rehabilitation of Belgian finance. On June 5 his budget was unanimously approved by the Senate, despite the fact that it imposed very heavy taxes on motor cars, income from real estate, and theatres. It was believed that these new taxes would bring in an additional revenue of 1,500,000,000 francs of which the land tax would produce 150,000,000. New taxes on customs and excises were expected to bring in 530,000,000 francs, the stamp tax, 700,000,000 and the tax on liquors, 72,000,000.

Premier Jaspar announced that he expected to do the following things: Establish a sinking fund for the payment of the national debt; increase considerably both the direct and indirect taxes; renew foreign credits already granted; and stabilize the franc as soon as a ratio could be determined. It was generally believed that the financial measures of the government were the work of Emile Francqui, the minister without portfolio. About the first of July the Belgian franc was quoted at 39.75 to the dollar but had risen to 38.50 by the end of the first week because of the large surplus in tax receipts.

On July 13 and 14 the Senate and the Chamber took drastic measures to solve the financial muddle. Both houses voluntarily deprived them-

selves of power to deal with the situation and conferred on the King the sole power of rescuing the country from bankruptcy or whatever else stared it in the face. One of the earliest measures resulting from this change was the bill turning over the State railways to a private company for operation. A discussion of this measure will be found above under the paragraphs dealing with *Communications*. Among the measures placed in effect were the abandonment of work on public works not considered essential; the forbidding of the importation of white bread; the placing of telephone and telegraph services under control similar to that of the railways; a tax on foreigners; the increase of the tax on lodgings; and economies in the running of the government. Premier Jaspars stated that the public's response to the government programme "is a clear indication that the whole country, without distinction of class, presents an unbroken front to what is called here 'the battle to save the franc.'" The government hesitated a long time before taking up the question of the stabilization of the franc. It was felt in Belgian financial circles that action on the part of Belgium would be useless unless accompanied by similar action on the part of France which was suffering to a greater extent even than Belgium from the fall in franc values.

On September 8, M. Francqui held a conference with M. Poincaré on this mutual phase of the question, but according to the press received very little encouragement largely because France had not been as successful as Belgium in the preliminary steps necessary to such a move. Early in October an arrangement was reached between the Bank Nationale and the Bank of England, the Federal Reserve Bank, and other banks whereby a loan of considerable size was promised whenever the government of Belgium should stabilize the franc. Spurred on by this promise the government went ahead very rapidly with its stabilization projects and on October 25, it was actually brought about with the ratio fixed at 36 francs to one dollar.

The new monetary system as introduced was based on a new unit known as the *belga*, which had a fixed gold value of .209211 gram. No such coin was put into circulation but the term merely signified five francs and was only to be used in connection with foreign exchange. A new metal currency was put into circulation to replace certain of the franc notes. Gradual increases were to be made in the amount of this new currency in circulation until the sum should be about 125,000,000 francs. The stabilization movement was everywhere successful. The new money went above par on the foreign exchange market and the international loan of \$100,000,000 was oversubscribed. Other favorable factors in the financial situation were the consolidation of the floating internal debt, the tremendous increase in the amount of taxes collected and the purchase of more than \$70,000,000 on the foreign exchange market without lowering the value of the franc to any great extent. The faith of the people in Jaspars' government and financial measures was shown in the elections held in October when the Catholic Party increased its seats in the chamber from 14 to 17, while the Liberals, Socialists, and Christian Democrats lost considerable strength. The results were interpreted as meaning the willingness on the part

of the people to support the conservative government to bring about the necessary financial measures to place Belgium back on her feet. The successful conclusion of the financial difficulties was followed a decided return of capital to the country.

On December 5, the government completed plans for the sale of the Belgian navy, which consisted of 17 mine layers and some coast patrol vessels.

**BELL, EDWARD.** British publisher, died in London, England, November 8. He was born in 1844, the son of George Bell, and after being educated at St. Paul's School and Trinity College, Cambridge, entered the publishing house with which his family had long been connected. He was known in England not only as a publisher, but also as an author and man of letters, having been the translator and editor of *Goethe's Early Letters*; *Wilhelm Meister's Travels*; and the *Nibelungenlied*; as well as having written *Architecture of Ancient Egypt*; *Prehellenic Architecture in the Aegean*; *Hellenic Architecture*; and *Architecture of Western Asia*. He was president of the Publishers Association 1906-09, and was a commissioner of income and land tax. At the time of his death he was chairman of George Bell & Sons, Ltd., publishers.

**BELL, GEORGE, JR.** American soldier, died at Chicago, Ill., October 28. He was born at Fort McHenry, Baltimore, Md., Jan. 23, 1859, the son of Brigadier-General George Bell of the United States Army. He graduated from the United States Military Academy in 1880 and was commissioned second lieutenant in the Third United States Infantry. In addition to service in the regular army he studied law at the University of Minnesota and at Cornell University, receiving the degree of LL.B. from the latter institution in 1894, and later being admitted to the New York Bar. He was professor of military science and technology at Cornell University, 1892-96, and participated in the Cuban Campaign before Santiago in 1898, and also in the Philippine Insurrection in 1900-03, being recommended for brevet rank of major for his services in the latter campaign. With his command he captured General Vincente Lukban, head of the insurrection in Samar, which put an end to the insurrection in that region. He also captured the leader of the insurrectionists in Leyte in the campaign against the Pulajanes in 1907, bringing peace to the Island. He served in the inspector general's department in 1907-13, being head of the military mission sent to the Swiss maneuvers in 1911. He was made colonel of the Sixteenth Infantry, Mar. 9, 1913, and brigadier general, July 17, 1914. He was promoted to major general of the national army Aug. 5, 1917, and in September was appointed commander of Camp Logan, Houston, Texas. He became commander of the Thirty-third ("Prairie") Division of the American Expeditionary Force in July, 1918, and after the War commanded the Sixth Corps Area with headquarters at Chicago. He became major general in the regular army, Mar. 22, 1921, and retired from active service, Nov. 30, 1922.

**BELL, GERTRUDE MARGARET LOWTHIAN.** British orientalist, and oriental secretary to the High Commissioner of Iraq, died at Bagdad, July 12. She was born July 14, 1868, the eldest daughter of Sir Hugh Bell, an ironmaster of the north of England, and was educated at

Queens College, London, and at Lady Margaret Hall, Oxford University. Soon after her graduation, and unattended by any other European, she traveled across the Arabian peninsula from west to east to the Shammar stronghold at Hayil, which for many years had not been visited by a European. This exploration secured for her a gold medal of the Royal Geographical Society. In addition to her taste for traveling, she also studied the language of the Arabs and, being able to speak the native tongues fluently, she won their confidence and respect. In 1915 she became attached to the Military Intelligence Department at Cairo and, in the following year, was liaison officer of the Arab bureau in Iraq. In 1917 she was assistant political officer at Bagdad, and four times was mentioned in dispatches for her services.

During the War, disguised as an Arab, Miss Bell penetrated into Turkey and was the means of bringing many Arab chiefs into alliance with Great Britain. It was stated that the Turkish Empire put a price of \$150,000 for the capture of Miss Bell and Col. Thomas Lawrence, an Englishman, who was also working in this field with great advantage to the British Empire. When the mandate for Iraq was given to Great Britain Miss Bell was made secretary to the High Commissioner Sir Henry Dobbis, and she worked zealously to build up an Arab kingdom, aiding King Faisal who with his queen was under her tactful influence. In this way she worked to develop an Arabian nation and demonstrated that she was a capable administrator as well as a fearless traveler and scholar. It was due to her efforts that the kingdom of Iraq was opened up to archaeological research, and that a working arrangement between King Faisal and British and American archaeologists was reached. She was interested in the work at Ur and Kish.

Miss Bell was the author of a notable work published in 1907, *The Desert and the Sown*, and a volume published in 1911 entitled, *Amurath to Amurath*, in which she discussed not only Near Eastern politics, but recent archaeological and topographical research in Mesopotamia. Her other works included: *Safar Nameh* (1894); *Poems from the Divan of Hafiz* (1897); in collaboration with Sir William M. Ramsay, *The Thousand and One Churches* (1909); *Palace and Mosque at Ukhaidir* (1914); *Review of the Civil Administration of Mesopotamia* (1921). In addition to her activities in Arabia and the Near East, she was also at home in England where she maintained places in Yorkshire and a town house in London. She was considered one of the best informed Europeans on oriental conditions ranging from archaeology to modern politics, and her influence in British Policy in this field was paramount in British foreign politics.

She was often referred to, in print, as the "Uncrowned Queen of Mesopotamia," and was considered by many, at the time of her death, the most distinguished woman of the day.

**BEREA COLLEGE.** A non-sectarian, co-educational institution at Berea, Ky., founded in 1855, and designed to serve the educational needs of the mountain people of the Southern Appalachians. The enrollment for the autumn of 1926 was 1908, divided as follows: College, 434; Normal, 186; Academy, 438; Foundation-Junior High School, 707; Training School, 140;

special students, 3. In the summer school of 1926, 272 students were enrolled. The faculty had 91 members, distributed as follows: College, 28; Normal, 11; Academy, 18; Foundation-Junior High School, 29; Training School, 5. During the year four members were added to the faculty of the College and four to that of the Academy. The endowment amounted to \$7,331,093.06, and the income for the year ending June 15, 1926, was \$208,768.31. A new gymnasium for women was completed during the year. The library contained about 49,500 volumes. President, William J. Hutchins, D.D., LL.D.

**BERMU'DA.** A British colony in the West Indies consisting of a group of small islands lying about 580 miles from Cape Hatteras, N. C. About 20 of the islands are inhabited. Because of its picturesqueness and proximity to New York (677 miles) it is a favorite winter resort for American tourists, who number annually some 28,000. Area, 19.3 square miles; population, according to the census of 1921, 20,127 (7006 white). The estimated civil population in 1924 was 23,280. Statistics for commerce and finance follow:

	1923	1924
	£	£
Imports . . . . .	1,882,401	1,815,023
Exports . . . . .	493,800	446,252
Revenue . . . . .	309,916	329,189
Expenditure . . . . .	277,925	312,969

In 1924 the total tonnage of vessels entered and cleared was 2,758,305 tons of which 2,360,159 were British. The public debt in 1924 was £45,000. The chief products are: Potatoes, onions, lily bulbs, and various vegetables. The chief imports in 1924 were: provisions, beef, bran, clothing, cotton goods, electrical goods; flour; hardware; fuel oil; and woolen goods. The chief exports are: Potatoes; onions; other vegetables; bulbs, and whiskey. The administration is under a governor assisted by an executive council of seven members and a legislative council of nine members appointed by the king and an elected assembly of 36 members. Governor in 1926, Lieut.-Gen. Sir Joseph John Asser.

**BERMUDEZ,** bẽrmoo'das, JORGE. Argentine painter, died at Granada, Argentina, in August. He was born at Buenos Aires, Sept. 15, 1883, and began his studies of art in that city. He was sent to Europe at the expense of the Argentine government, studying and traveling extensively. He exhibited paintings at the Paris Salon in 1910-11-12, and in the latter year, in the Gallery of Buenos Aires, showed an immense canvas, "In Old Castile" (En Castilla la Vieja) which indicated the influence of Zuloaga. His later work manifested more personal characteristics, and in 1913 he received first prize in the Argentine Salon for "The Red Poncho" (El poncho rojo). He also was awarded prizes in the exhibitions of Córdoba and Rosario, and in 1915 at the San Francisco Exposition received a gold medal. Most of his subjects were derived from northern Argentina. He was looked upon as one of the most vigorous and finished painters of Argentina.

**BER'TRAND,** bẽr'trãn', FRANCISCO. Former president of Honduras, died at La Ceiba, Honduras, July 16. He was born in 1870 and, be-

coming active in political life, on Feb. 21, 1912 was inaugurated as vice-president with Gen. Manuel Bonilla as president. On Mar. 13, 1912, on the death of Bonilla, he succeeded to the presidency, holding office to 1913, when he resigned with the consent of congress to become a candidate for the ensuing term. On Oct. 24, 1915, Bertrand was elected president for the term beginning Feb. 1, 1916. During his administration he attempted to pacify the various political parties of the country, declaring a general amnesty for all political exiles of various regimes, and shortly before his resignation in 1919 he called a conference of representatives of the Central American republics to consider their union in a federation, but the plan was opposed by several of the countries. His resignation in 1919 resulted from a revolution growing out of the activity of rival parties eager to elect his successor, the movement being started by Gen. Lopez Gutierrez. The general charged that, due to measures taken by President Bertrand, it would be impossible to have a free-election. General Gutierrez was a candidate in opposition to Nazario Soriano, a brother-in-law of President Bertrand, who received the latter's support. President Bertrand after his resignation left the country for the United States and lived in New Orleans until a few months before his death, when he returned to Honduras. After his departure the insurrectionists agreed on a truce to insure freedom of voting in the subsequent election. It was reported that Dr. Bertrand and Carlos Melendez, the former president of Salvador, in 1919 had agreed upon the "basis of a treaty," by which the constitutions of the two countries should be annulled and the two nations amalgamated into one republic.

**BERYLLIUM.** See CHEMISTRY, INDUSTRIAL.

**BES-SARABIA.** Formerly a government of the Russian Empire; joined to Rumania in March, 1918. Area, 17,146 square miles; population, estimated in 1919, 2,344,800. It is represented in the Rumanian legislature by 51 deputies and 24 senators. See RUMANIA.

**BETTIS,** CYRUS K. American soldier, first lieutenant Air Corps, U. S. A., died at Washington, September 1, as the result of an accident occurring August 23 while on his way from Philadelphia to Selfridge Field, Mt. Clemens, Mich. Lieutenant Bettis was born at Carsonville, Mich., Jan. 2, 1893. He enlisted as a private in the aviation section of the Signal Corps, U. S. A., Jan. 25, 1918, and September 11 of that year was made second lieutenant, Air Service, temporary rank. July 1, 1920, he was commissioned second lieutenant, Air Service, U. S. A., and the same date promoted to first lieutenant. After serving as a pilot on the Mexican Border and in the Philippine Islands, in 1924 he won the John L. Mitchel Trophy at Dayton, Ohio, awarded annually to pursuit planes, with an average speed of 173.43 miles per hour. In 1925 he won the Pulitzer Trophy in the National Air Races held at Mitchel Field, Long Island, with an average speed of 248.975 miles per hour. He, with Lieut. James H. Doolittle, winner of the Schneider Cup Race for 1925, in the following year was awarded the Clarence Mackay trophy for the most meritorious flight of the year. During the summer of 1926 he was engaged in a number of flights from the Sesqui-Centennial Grounds at Phila-

delphia, and on August 23 with two other planes he was engaged in a flight from that city to Selfridge Field, Mich. Flying into a fog bank his plane crashed into a tree on the side of a mountain near Lewistown, Pa. The plane was seriously damaged and Lieutenant Bettis, with a broken leg and both jaws fractured, crawled six miles to the road, where he was found and taken to Bellefonte, Pa., after having been missing for 43 hours. He was brought by airplane ambulance to the Walter Reed General Hospital at Washington and his recovery was anticipated until spinal meningitis developed, which resulted in death.

**BIBLE SOCIETY, AMERICAN.** A society founded in 1816 which strives for a wider circulation of the Bible to all people without denominational or racial discrimination. The Bibles are furnished at cost prices and distributed through the Society's home, foreign, and other agencies. In 1925 the home agencies distributed 2,587,236 volumes; the foreign agencies 5,479,926. The Society supplied the Scriptures in 152 languages during the year, including editions in Roman and Gothic characters and embossed systems for the blind. The total issues of the Society in 110 years of service have been 174,121,599 volumes, of which 98,024,153 were distributed in the United States and 76,097,446 in foreign lands. The number of issues in the United States in 1925 was 3,646,548, of which 1918 were for the blind, and in other lands 5,567,875, making a total of 9,214,423. Workers in the ten home agencies totaled 794, of whom 311 were volunteers; workers in the 12 foreign agencies numbered 2704, of whom 637 were volunteers. The work of revising and translating the Bible into additional languages was going on constantly and progress was reported to have been made during the year in translation and revision work in Yiddish, Spanish, Miskito, Cakchiquel, Aymara, and Brazilian-Portuguese for the western hemisphere, Soochow Colloquial and Canton Colloquial for China, Panayan, Cebuano, Samareño, Bicol, Tagalog, and Ilocano, for the Philippines, and Olunoyere, Bulu, and Luba-Lulua for Africa.

The total receipts of the Society for the year from invested funds, donors, sale of books, etc., amounted to \$1,036,128.80; its expenses were \$1,028,660.26. The Society was affiliated with 124 auxiliary Bible Societies throughout the United States, which assist in the circulation of the Scriptures and contribute to its expenses. In 1925 the contributions from this source amounted to \$21,416.05. The officers in 1925 were: E. Francis Hyde, President; Rev. William J. Haven, LL.D., and Rev. Arthur C. Ryan, General Secretaries; Rev. Lewis B. Chamberlain, Recording Secretary; and Gilbert Darlington, D.D., Treasurer. The official organ of the Society is the *Bible Society Record*. Headquarters are at the Bible House, Astor Place, New York City.

**BICYCLING.** See CYCLING.

**BIERCK,** berk, ALBERT BOYKIN. American railway official and comptroller of the Philadelphia and Reading Company, died at Westport, Conn., August 28. He was born at Westport, Conn. Oct. 9, 1867, and after studying at New York University in 1887, became a freight clerk with the Pennsylvania Railroad at New York. He served in charge of lighterage for the Baltimore and Ohio at New York, as traveling



agent for the Northern Pacific and Union Pacific, train dispatcher for the Northern Pacific, general manager and auditor for the Prospect Park & Coney Island, also general auditor for the Long Island and the Montauk Steamship Company. On Aug. 12, 1918, he became federal auditor of the Philadelphia and Reading, the Central of New Jersey, the Staten Island Rapid Transit, and the Baltimore and Ohio, New York terminals. On Feb. 18, 1920, he became comptroller of the Philadelphia and Reading, serving in addition as assistant secretary, and for a time, in addition acting as vice-president.

During the World War he was in France assisting Maj. Grayson M.-P. Murphy in the organization of the Red Cross.

**BIGLAND, PERCY.** British artist, died at Stone Dean, Jordans, Buckinghamshire, England, April 8. He was born at Birkenhead in 1858, a son of Quaker parents, and was educated at the Friends School at Sidcot, Somerset, after which he was for seven years an art student at Munich, where he received the first medal of the Royal Academy of Munich in 1880. He was a portrait painter whose pictures were shown regularly at the Royal Academy in London. In 1896 his best known painting, "The Quaker Wedding," was exhibited. The composition included the portraits of several old Quaker worthies. During the War he visited various prisons to bring comfort and aid to the members of the Society of Friends, who had been given hard labor sentences for refusing military service, and in the year 1926 he traveled as far as India as a member of a delegation of the Friends Foreign Mission Association. Purchasing a seventeenth century house at Stone Dean at the old Quaker centre at Jordans in Buckinghamshire, opposite to the meeting house where William Penn is buried, he established a centre which became a gathering place for Quakers from all parts of the world. Bigland was an original member of the Royal Society of Portrait Painters in London.

**BILLIARDS.** Billiards displayed a healthy growth during 1926, despite the fact that there were few important professional tournaments held. The game appears to be steadily increasing in popularity among amateur players. The professional 18.2 balkline title changed hands twice during the year. Jacob Schaefer wrested the championship from Edouard Horemans of Belgium in a match played at Chicago by a score of 1500 to 890. Schaefer in turn bowed to Erich Hagenlacher of Germany at Philadelphia by a score of 1500 to 1344. In an 18.1 balkline match Schaefer defeated Willie Hoppe, 3000 to 2926.

In pocket billiards Ralph Greenleaf regained the title he had held for six years and lost to Frank Taberski in 1925. Otto Reisel captured the three-cushion honors.

New champions were enthroned in amateur billiards. John Clinton, Jr., captured the 18.2 championship in Class A., C. P. Matthews in Class B., and Franklyn Hammer in Class C. Clarence Hurd displaced Carl Vaughn as national amateur pool and billiard champion.

**BILL OF RIGHTS, VIRGINIA, ANNIVERSARY.** See CELEBRATIONS.

**BILLOP HOUSE, STATEN ISLAND.** See CELEBRATIONS.

**BIOCHEMISTRY.** See CHEMISTRY.

**BIOGRAPHY.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE, ETC.

**BIOLOGICAL CHEMISTRY.** See CHEMISTRY.

**BIOLOGY.** See ZOÖLOGY.

**BIRDS.** See ZOÖLOGY.

**BIRTHRATE.** See VITAL STATISTICS.

**BLOCK SIGNALS.** See RAILWAYS; RAILWAY ACCIDENTS.

**BLOOD PRESSURE.** See HIGH BLOOD PRESSURE.

**BOBBS, WILLIAM CONRAD.** American publisher died at Indianapolis, February 11. He was born in Montgomery County, Ohio, Jan. 25, 1861, and after a public school education at Indianapolis entered the employment of Merrill, Meigs & Company, booksellers in Indianapolis in 1879, becoming a director of the company in 1890, and president of its successor, The Bobbs-Merrill Company, in 1895. Under Mr. Bobbs' direction the publishing firm which succeeded the old established booksellers rapidly developed and its output soon represented the work of many authors from different localities, and made of Indianapolis a centre of bookish activities for the middle west. He was interested in many commercial enterprises, being a director of the Indiana National Bank and of the Enterprise Iron Works, and chairman of the executive committee of the State Life Insurance Company. He was connected with commercial organizations of Indianapolis as well as a member of clubs in Indianapolis, Chicago, and New York where he also maintained an office.

**BOHEMIA.** A constituent member of the state of Czecho-Slovakia (q.v.) since the defeat of the Central Powers in 1918; formerly a crownland of Austria; situated in the northwestern part of the former Austro-Hungarian Empire, with Saxony and Silesia on the north, Moravia on the east, and Lower and Upper Austria on the south. Area, including the small Austrian and German territories which were added by the peace treaty to Czecho-Slovakia, 20,102 square miles; population, Feb. 15, 1921, 6,670,582. Bohemia is represented in the Czecho-Slovak legislature by nine deputies and five senators.

**BOILERS.** In 1926 the tendency to use larger units, higher pressure, and to expose the maximum surface to the heat of the fire continued to be the leading feature of boiler development. In the annual review published in *Power* (New York), and used in preparing this summary, it was stated that it had been found that heat transfer by radiant heat might result in the absorption of 70 pounds B.t.u. per hour per square foot of exposed surface, which would correspond to .21 per cent of rating, or the evaporation of about 63 pounds of water per hour per unit of surface. One of the notable boilers at the end of the year was that of the Commonwealth Edison Company at the Calumet station in Chicago, where a high rate of combustion was secured by surrounding the furnace with a steam-making surface with a relatively small boiler, but with much of its surface exposed to the radiant heat, and transferring the less active convection surface to the counter-flow economizer. This boiler had not been tested at the end of the year, but its functioning was awaited with interest. Other interesting equipment was the provision of two combustion steam generators with air heaters and



unit pulverizers at the new plant of the Solvay Process Company at Syracuse, N. Y. These would generate steam at 825 pounds pressure, 25-pound gage pressure, for two 5000 kw. turbo-generators operating against a back pressure of 165 pounds gage for process work. In this type of boiler a comparatively small surface per given output is required, as practically the entire heating surface is exposed to the radiant heat of the fire. A high furnace temperature is secured by the use of highly pre-heated air.

In another type of steam generator powdered fuel is introduced through the centre of the top drum, the tubes surrounding the furnace in bird-cage fashion. At the bottom drum an opening permits access to the interior for cleaning, etc. The air is introduced tangentially and the arrangement of bricks is such as to reflect heat from the furnace. One of the high pressure boilers of the year was the Lakeside unit which was operating successfully at 1350 pounds. This was of special three-drum Stirling design with 28,532 square feet of surface in three-inch tubes. The steam temperature is 720 degrees Fahrenheit, produced by radiant super-heaters lining the walls of the furnace, and a radiant re-super-heater raises the temperature of the steam exhausted from a 7000 kw. turbine at 317-pound gage pressure, and a temperature of 447 degrees before being delivered to the main steam header of the plant.

In Europe a number of experimental installations for high pressure steam generation were under way, among which was that at the Witkowitz Coal Mines in Moravia, where a Loffler steam generator was being installed in an 18,000 kw. plant generating steam at 1500 to 1700 pounds. Here, with a so-called "fireless boiler," steam is delivered by a pump to nozzles which bubble it through water in a heavy drum. The arrangement makes possible an output of saturated steam which is pumped back through the super-heater, with the excess available for outside consumption. The boiler arrangement contains merely a super-heater and economizer. In a German boiler also designed for pressure operation there were both primary and secondary systems, the former being closed and consisting of a coil lying in the drum of the secondary system. Condensation of the primary steam in this coil would generate secondary steam from pure or impure water. In an experimental installation designed by Sulzer Brothers of Winterthur, Switzerland, a low-pressure boiler is combined with a high-pressure generator in the same setting, the former operating at around 200 pounds, pre-heating the high-pressure feed, and supplying the high-pressure boiler, which produces steam at a pressure of around 1500 pounds.

From experiments and studies undertaken during the year it seemed evident that higher steam temperatures than those hitherto deemed feasible could be employed. Especially was this true in view of various metallurgical developments. Thus where it had not been considered advisable to make use of steam temperatures in excess of 750° F. now by the use of certain low-carbon steels higher temperatures, at least up to 800° F., can be employed if low unit stresses are used, while recent fatigue tests indicate that the fatigue limit does not decrease appreciably at high temperatures below that at normal temperatures. Experiments with certain special alloy steels

also indicated that higher temperatures could be used. Along with higher temperatures the tendency towards higher pressures continued and in many cases high pressures were preferred to high temperatures. The Langerbrugge Station near Ghent, Belgium, was showing in its high pressure addition an economy of 33 per cent over the older section of the plant. High pressure boilers at Boston and Milwaukee, working at 1200 lb. and 1390 lb. respectively, continued to give satisfaction, while for the Edgar Station in the former city orders were placed for two more 1400 lb. units having 15,003 sq. ft. of surface with air heaters, economizers and water-cooled furnace walls. Higher pressures were not confined to the larger stations, but were finding application in industrial plants also especially those where the steam is employed for process. The usual method was to install a high-pressure generating unit which would exhaust to the existing station header or to process or bleeding at a relatively high pressure, and thus largely obviate the necessity of using live steam, securing increased economy.

The higher pressures called for, even 400 to 450 lb. being in excess of previous practice, were demanding better boilers more carefully made and of heavier materials, and never before was such good workmanship available.

During the year there were a number of installations of waste heat boilers particularly where there was dust in the waste gases so that facilities for tube cleaning were necessary, and where minimum draft losses were secured with maximum heating surface. Interest centred during the year in the electric-boiler steam-accumulator installation at the Riverbend newsprint mill of Price Bros. & Co. in Quebec. Here there were two 32,000-k.w. electric boilers which supplied steam to the plant for process at pressures of 150 lb. and 25 lb. regulated and kept constant by sensitive governor valves. This interesting installation was described in *Power* (New York) Nov. 9, 1926, pp. 688-92. Other high pressure steam accumulators were coming into wide use. Various improvements in superheating were being made to adapt them to high pressures and temperatures. Also the use of the air preheater was becoming more general even in smaller plants. Likewise there was an increase in the number of systems to afford automatic combustion control, the improvements varying in detail and method of operation. It was demonstrated at one large station that practically ideal conditions could be maintained under a proper combination of pressure and feed control.

MERCURY BOILER. In the YEAR BOOK for 1925 and 1923 mention was made of a new type of Emmett mercury boiler and three-stage mercury turbine installed at the Dutch Point Station of the Hartford Electric Light Co. This installation replaced a five-tube type of boiler and single-stage turbine placed in operation in 1923. The mercury boiler after being operated during the latter part of 1925 and the opening months of 1926 was shut down for a few minor changes and repairs which were made by the end of April and the boiler was again put in commission carrying commercial loads during the daytime. The changes made to prevent interference with the liquid circulation by the escape for vapor near the down circulation tubes seemed to be effective and the unit was operated at the highest loads the generator was capable of carrying.

The furnace was changed towards the end of the year to burn pulverized coal in place of oil.

**BOKHARA**, bo-kä'ra. A state in Central Asia, formerly a dependency of the Russian Empire, later known as the Bokharan People's Republic, and since September, 1924, a part of the Soviet Socialist Republic of Uzbek. It is bounded on the north by the Russian provinces of Samarkand and Syr-Daria; on the south by Afghanistan; on the southwest by Transcaucasia and Khiva; and on the east by Ferghana. Estimated area, 79,000 square miles; estimated population, 3,000,000. The chief towns with their estimated populations are Bokhara, 75,000, and Karshi, 25,000. The religion is chiefly Mohammedan. The chief products of Bokhara are corn, fruit, silk, tobacco, cotton, hemp, and farm animals; and the chief minerals are gold, salt, alum, and sulphur. The trade is mainly with India to which raw silk is exported and from which tea, indigo, Dacca muslin, etc., are imported. By the revolution of Aug. 30, 1919, the Amir was dethroned and the Soviet government was set up, which formed a military and political agreement with Russia. In September, 1924, Bokhara and Khiva were joined together to form the Soviet Socialist Republic of Uzbek.

**BOLIVAR**, CONGRESS OF, ANNIVERSARY; BOLIVARIAN UNIVERSITY. See CELEBRATIONS.

**BOLIVIA**. A South American republic situated in the interior and bounded by Brazil on the east and Chile on the west. Sucre is the seat of the supreme court and is historically regarded as the capital, but the actual seat of the government and the largest city is La Paz.

**AREA AND POPULATION**. Estimated figures for the area and population of Bolivia, as given in the latest published report of the Minister of Promotion and Communications, that for the year 1923-24, place the latter at 2,155,000, as against 1,796,500, the population shown by the last official census, taken in the latter part of 1900. The area of the republic is given as 1,332,808 square kilometers, or 506,467 square miles. In 1924 the estimated population of La Paz was 118,250. Other large towns with their estimated populations at the same time were: Cochabamba, 34,281; Potosi, 30,122; Sucre, 16,194; Tarija, 10,843; Oruro, 32,908; Santa Cruz, 18,315; and Trinidad, 6269.

**EDUCATION**. Primary instruction, which is free and obligatory, is under the care of the municipalities and the state. In 1924 there were 1373 elementary schools with 2442 teachers and 80,984 pupils. For secondary education there were 27 colleges, 5 clerical institutions, and 5 private schools, with, in all, 418 teachers and 4098 students. For higher education there are 23 establishments with 260 professors and 1941 students. At Sucre and La Paz are the only two universities with more than one faculty. The university at Sucre, known as the St. Francis Xavier University, is one of the oldest in America, having been founded in 1624.

**PRODUCTION, MINERAL RESOURCES, ETC.** Although nearly 5,000,000 acres are under cultivation, agriculture is in a very backward condition. In some regions irrigation by means of artesian wells is being attempted. The principal products are potatoes, coffee, cacao, barley, rice, and rubber. Bolivia ranks next to Brazil as the largest rubber-exporting country in South America. Mining is the only important industry.

According to the United States Bureau of Foreign and Domestic Commerce, the production and consumption of nearly all the non-ferrous minerals and metals in Bolivia showed large increases in 1925. The favorable conditions in the world metal market, and especially in that for tin, have given unusual prosperity to this country, which supplies 28 per cent of the total tin output of the world. Tin shipments have accounted for approximately 75 per cent of the value of Bolivia's exports, and the export tax on the metal is the principal source of government revenue. Silver and copper exports are next in importance. The world consumption of tin exceeded production in 1925, causing a considerable diminution in the known reserves, which have been low for some years. At the same time prices went up. Production from the department of Potosi amounts to about three times the output of the rest of the republic. Preparation was being made to operate the Arafila tin placers near Potosi, and it seemed probable that a considerable increase in tin production would result. The production of copper in 1925 exceeded all previous yearly records, and the consumption in the United States reached a quantity almost without precedent, although the demand elsewhere was below the normal level. On Nov. 30, 1925, refined reserves of this metal were only half of what they were at the beginning of the year. The production of lead exceeded all precedent because of the demand arising from its uses in cables, batteries, and radio installations.

Exports from Bolivia were considerably higher than in 1924 and were almost four times those for 1923. The following table shows Bolivian mineral exports for 1924 and 1925, as published by the General Administration of Customs Houses in Bolivia:

Product	1924 Kilos	1925 Kilos
Antimony .....	1,409,731	3,146,415
Bismuth .....	399,186	542,497
Copper .....	21,090,807	14,659,382
Tin .....	59,435,567	54,828,520
Gold .....	30	12
Silver .....	13,546,304	11,243,002
Lead .....	38,622,092	36,837,768
Wolfram .....	436	76,288
Zinc .....	485,445	6,209,982
Total .....	123,989,598	127,143,866

**COMMERCE**. Statistics taken from the *Boletín Comercial* and published in the United States *Commerce Reports* dealing with Bolivia's foreign trade in 1925 show that the growth of trade which had been taking place in that landlocked Republic since 1921 continued throughout 1925. The total volume of trade, 307,382,443 kilos, was the greatest in the history of the country, not excepting the European war period, when high prices and strong demand for Bolivian minerals provided a great stimulus to production. The combined values of imports and exports, \$64,392,706, although somewhat under those of the abnormal period of 1917, 1918, and 1919, are, nevertheless, \$9,453,498, or 17 per cent, over the total of 1913 and considerably in excess of average pre-war figures. Both imports and exports have grown. The value of imports in 1925, \$23,393,981, was slightly under that of 1924, but was 15 per cent above 1913 and 70 per cent above 1922. Exports in 1925 were valued at

\$40,998,725, or 18 per cent greater than in 1913 and 56 per cent over 1922. The following table shows the movement of trade in the four-year period of 1922 to 1925, inclusive:

FOREIGN COMMERCE OF BOLIVIA, BY WEIGHT AND VALUE, 1922-1925, INCLUSIVE

Years	Imports	
	Kilos	Value
1913.....	172,447,000	\$20,262,248
1922.....	112,565,996	13,840,929
1923.....	163,875,419	19,061,628
1924.....	172,210,387	19,899,435
1925.....	168,763,001	23,393,981

Years	Exports	
	Kilos	Value
1913.....	67,189,000	\$34,676,960
1922.....	121,751,185	26,251,168
1923.....	122,736,576	32,631,240
1924.....	138,725,203	35,548,069
1925.....	138,619,442	40,998,725

NOTE.—There is a wide divergence in figures of trade between Bolivia and the United States as given in the statistics of both countries. This spread is explainable on the ground that Bolivia, being an inland nation, depends upon the ports of neighboring countries for ocean shipping. Therefore many shipments of goods which eventually arrive in Bolivia are reported in the country of origin, for instance the United States, as destined for the country where they are unloaded, while at the same time in Bolivia they are credited to the country of origin. The same condition holds with respect to exports from Bolivia.

The position of the two principal suppliers of the Bolivian market, the United States and the United Kingdom, which together account for about 50 per cent of the total value of imports, have been reversed since 1913. In that year the participation of the United Kingdom amounted to \$3,815,414, and of the United States to \$1,389,923, and although the share of the United Kingdom had risen to \$4,650,540 in 1925, the share of the United States had risen to the larger sum of \$6,303,071. This increase is principally accounted for by greater purchases of American cotton cloth, wheat flour, canned goods, iron and steel goods (including machinery), automobiles, and explosives. For a discussion of Bolivia's mineral exports, see preceding paragraphs.

FINANCE. The budget estimates for the year 1925-26 balanced at 44,482,183 bolivianos. The principal items of expenditure in the budget were: Public debt, 19,375,880 bolivianos; war ministry, 8,492,950; education, 3,892,246; interior, 3,466,082; communications, 2,171,844; justice, 2,006,361. Towards the end of the year it was announced that at the request of the Bolivian government a financial mission of six members, under the direction of Professor Kemmerer of Princeton University, would visit Bolivia to study the banking system and questions relating to public credit and government loans. Bolivia's public debt at the end of 1925 totaled 134,505,737 bolivianos (the boliviano equalled \$.3382 in 1925, at average rate of exchange), according to a statement compiled by the permanent fiscal commission. This was an increase of 6,670,891 bolivianos or roundly \$2,223,630. The increase of 4,308,840 bolivianos in the external debt accounts for most of this. Despite this increase in the external debt, the part of it represented by loans negotiated in the United States was reduced during the year by 2,952,000 bolivianos. About 92.5 per cent of the foreign debt consisted of loans from the United States.

BOLIVIA'S PUBLIC DEBT AS OF DECEMBER 31  
[In bolivianos \*]

Loan or item	1924	1925
<b>EXTERNAL DEBT</b>		
Yungas railroad loan (Chanderley)	5,809,500	5,511,000
Sanitation loan (Ulen)	4,821,000	4,464,000
American loan of 1922	82,339,500	80,048,000
Potosí-Sucre railroad loan (Patino)		7,260,840
Total	92,970,000	97,278,840
<b>INTERNAL DEBT</b>		
Total	20,647,356	21,368,176
<b>FLOATING DEBT *</b>		
Banks: Ordinary account	8,017,890	8,369,331
Banks: Various accounts	2,650,813	3,944,219
Time obligations	8,155,740	3,240,179
Mortgage banks	393,047	304,992
Total	14,217,490	15,858,721
Grand total	127,834,846	134,505,737

\* The boliviano, at average rate of exchange, equalled \$0.2968 in 1924, and \$0.3382 in 1925.

\* The total for 1925 includes a debit balance of 2,500,134 bolivianos, existing in a special Centennial credit with the Banco de la Nación Boliviano, which should be paid during 1926 from extraordinary revenues specially provided.

COMMUNICATIONS. According to the Pan American Union *Bulletin* for February, 1926, the railways in operation in Bolivia comprised the following: Arica-La Paz Railway, 125 miles in Chile and 151 miles in Bolivia; Antofagasta and Bolivia Railway, 575 miles in Bolivia and 275 miles in Chile; Atocha-Villazón Railway, 127 miles; Empresa Luz y Fuerza Eléctrica de Cochabamba, 49 miles; Guaqui-La Paz Railway, 60 miles; Huanchaca de Bolivia Railway, 26 miles; La Paz-Yungas Railway, 16 miles; additional line under construction; Machacamarca-Uncia Railway, 37 miles; Potosí Sucre Railway, 34 miles, additional line under construction; Bolivia Railway Company, 416 miles. The following roads were projected, and construction on some was commenced: Cochabamba-El Beni, Cochabamba-Santa Cruz, Guayaremerin-Riheralta, Iquique-Oruro, Santa Cruz-Yacuiba, and Santa Cruz-Paraguay River.

GOVERNMENT. Executive power is vested in the president, elected by direct popular vote for four years, who is ineligible for reelection; and in a cabinet of six departments. Legislative power is vested in a congress of two chambers, the senate of 16 members elected for six years, and the chamber of deputies of 70 members, elected for four years. One-third of the senate and one-half of the chamber retire every two years. President, Dr. Hernando Siles, assumed office Jan. 10, 1926, for the period 1926-1930.

HISTORY. On January 10 Bolivia inaugurated a new president Dr. Hernando Siles. Dr. Siles was born at Sucre on Aug. 5, 1881. He received his education at the schools and colleges of his native city and was admitted to the bar in 1905. In 1911 he moved to La Paz and from then until 1917 he was head of the faculty of Civil Law and Justice at the university. During this time he also served as chief official of the Ministry of Justice. Upon returning to Sucre in 1918 Dr. Siles became the Rector of the University of Saint Francis Xavier, a position he was still holding when elected president of the republic. For years he has been a recognized authority on the subject of law, both national

and international, having been named Honorary Professor in the School of Law of the University of Chuquisaca, at which time he was commissioned by the Senate to prepare the *History and Jurisprudence of the Parliamentary Law of Bolivia*. In addition, Dr. Siles is the author of a number of important legal works, notably *El Código Civil*, *El Código Penal*, and *El Procedimiento Civil*, the last named having been published with comment and concordance, in the city of La Paz after he had made a voyage to, and a lengthy stay in Chile, for the purpose of perfecting his knowledge of the legal codes of that country.

At the beginning of February the British press announced plans of a British syndicate for the operation of a concession of 120,000 square miles in Bolivia. The terms provided for a grant of 30,000,000 acres of agricultural and forest land, freehold in perpetuity, 10,000,000 acres of oil rights and 10,000,000 acres of mineral rights. The syndicate has the right to build roads, railways, ports, and factories, and the right to operate steamers under the Bolivian flag. All the syndicate's exports will be duty and tax free for 25 years, and it has the right to import 25,000 European families. In return, the syndicate undertook to build a port at Gaiha, to construct sixty miles of railway to Santo Corazon, and to erect and equip a wireless station. After twenty-five years the port and railway will be transferred to Bolivia.

On August 6th Bolivia celebrated its 101st anniversary of independence. Three days later the congress met to help President Siles solve some of the problems remaining from the brief term of Dr. Siles's predecessor, Dr. Felipe Guzman, who had been in office only a few months.

For a discussion of Bolivia's interest in the Tacna-Arica dispute consult the article on *ARBITRATION, INTERNATIONAL*.

**BOLL WEEVIL**, BOLL WORM. See *ENTOMOLOGY, ECONOMIC*.

**BOLSHEVISM**. See *RUSSIA*.

**BONILLA Y SAN MARTIN**, ADOLFO. Spanish jurist and philosopher died January 18, at Madrid. See *SPANISH LITERATURE*.

**BOOTH**, HERBERT. Evangelist and former commander of the Salvation Army in Canada, died at Yonkers, N. Y., September 25. He was born in Cornwall, England in 1862, the third son of General William Booth, founder of the Salvation Army, and at an early age entered this organization, where he received a thorough training in its work. He was sent to Australia where he spent four years supervising the activities of the organization in the Commonwealth. Later he was in command of the Salvation Army in Canada, and later of a district in Great Britain. He composed some 200 hymns, and was an inspiring singer as well as being able to speak in five languages. In 1903 he left the Army for reasons which he never mentioned publicly, referring to it as "a personal and family matter" which he did not care to discuss. He devoted the remainder of his life to evangelism and came to the United States in 1903 to found the Scientific Evangelization Society, which had for its mission the preaching of the gospel to the unchurched masses, utilizing such aids as motion pictures. He was a friend of William Jennings Bryan and after his death succeeded him, at his request, as superintendent of the Tourist

Bible Class of the First Presbyterian Church of Miami, Florida.

**BOOTS AND SHOES**. In its proceedings of the twenty second Annual Convention, held in January 1926, the National Boot and Shoe Manufacturers' Association reported at length the suggestions of various speakers to the effect that much might be done in the way of inducing a bigger sale of American boots and shoes by an intelligent propaganda scheme. The average life of boots of all kinds had been lengthened by the growing use of the automobile and buyers were to be persuaded to buy more shoes, not because those they had were shabby or worn out but in order to be correctly dressed for all occasions. "No tan boots after six p. m." was one slogan suggested to the meeting. Moreover as most of the sales of women's shoes were made on the dictates of fashion, it would probably strengthen the sales if a well directed local and national publicity campaign were to be undertaken for the education of men to an appreciation of "shoe-sense." Much time was given to discussions of factors which are unnecessarily keeping up the cost of manufacturing and selling.

The imports of foreign shoes into the United States remained steady during the year 1926 and the volume of export was, comparatively, so low that possibilities of developing the export trade were engaging the attention of leaders of the industry during the whole of the year. It was stated that the estimated consumption of the Latin American and Australasian markets was 70,000,000 pairs of shoes, and that, estimated upon the basis of the per capita consumption in the United States, this figure could be increased to ten times this amount. But the annual export from the United States to this entire market did not exceed 5,000,000 pairs. Although the month by month sales of 1925 and 1926 showed a slight increase in the latter year over the former, the grand totals showed practically no advance of sales or production for the home market. The production in November, 1926 was, for all kinds of boots and shoes, 26,768,043 pairs as compared with 24,630,304 in November, 1925. But the production during the period January-November, 1926 actually showed a falling-off from the figures of the previous year, January-November 1926, 299,107,973 pairs, same period 1925, 299,149,466 pairs. The figures issued by the U. S. Department of Commerce are based on reports received from 998 manufacturers representing 1146 factories, and indicated that in the month of November 1926, the production included 7,549,496 pairs of men's shoes, (high and low cut, leather), 1,882,020 pairs of boys' shoes, 8,284,704 pairs of women's shoes, 3,238,813 pairs of misses' and children's shoes, 1,769,006 pairs of infants' shoes, 415,161 pairs of athletic and sporting shoes (leather), 220,037 pairs of shoes with canvas, satin, and other fabric uppers, 420,031 pairs of all-leather slippers for house wear, 2,376,141 pairs of part leather slippers for house wear, and 611,734 pairs of all other leather or part-leather footwear. The figures of production by States were available for the period January to June 1926. Some States having each a single plant are combined in the following statistical report. The total United States production for the first half year was 154,306,180 pairs, made up as follows: Maine, 8,756,809 pairs; Massachusetts, 35,120,225 pairs; Missouri and Illinois, 33,909,-

298 pairs; New Hampshire, 8,910,764 pairs; New York, 34,357,276 pairs; Ohio, 6,558,876 pairs; Pennsylvania, 8,061,771 pairs; Wisconsin, 7,839,767 pairs; all other States, 10,791,394 pairs. Some manufacturers submit reports covering plants located in more than one State, and for this reason it is necessary to combine the statistics for Missouri and Illinois. The figures for the period January to November inclusive for the three years were: 1924, 288,627,764; 1925, 299,149,406; 1926, 299,107,973. Thus, 1926 while showing an advance over the figures for 1924, indicated a falling off from those of 1925 when the year's production was 323,553,000 pairs. In the opinion of the leaders of the industry there were many causes contributing to the lack of rapid advancement in production, and in addition to the high cost of production and selling it was believed that one of the main difficulties is that the industry has found its saturation point in the supply of home demand.

**BORNEO.** An island in the Malay Archipelago, next to Australia, Greenland, and New Guinea the largest in the world. See **BRITISH NORTH BORNEO**, **BRUNEI**, **SARAWAK**, and **DUTCH EAST INDIES**.

**BOS'NIA AND HERZEGOVINA**, hër'tsā-gi-vēna. Formerly provinces in the Turkish Empire; now provinces of the newly established state of Jugo-Slavia (q.v.). In 1908 control over them was acquired by the Austro-Hungarian Empire. In 1918 after the collapse of this empire they were turned over to Jugo-Slavia. Area, 19,768 square miles; population, according to the census of Jan. 31, 1921, 1,889,929.

**BOSTON UNIVERSITY.** A non-sectarian institution of higher education at Boston, Mass.; founded in 1869. The enrollment for the fall term of 1926 was 9184, of whom 4686 were men and 4498 women, distributed as follows: college of liberal arts, 869; college and extension courses, 886; college of business administration, 3456; college of practical arts and letters, 914; school of theology, 255; school of law, 626; school of medicine, 195; school of education, 1003; art department, 77; school of religious education and social service, 456; graduate school, 447. The enrollment for the summer session of 1926 was 1157, and the fall enrollment in extra-mural courses was 1403. The faculty numbered 495. The libraries contained 98,148 volumes and 17,400 pamphlets. Productive funds of the university, exclusive of \$279,200 subject to annuities, amounted to \$3,396,300, and the income from productive endowment was \$121,300. New buildings during the year included two new dormitories, one for the women students of the School of Religious Education and Social Service, an anonymous gift, and the other for School of Theology students, the gift of Mrs. G. L. Richards, a trustee. A Bureau of Consumer Research was established by the household economics department to give practical instruction in household economics research and to cooperate with manufacturers in providing reports on what women want and will use. A gift of significance was that of \$10,000 given by Mrs. Robert Bacon of New York to found a special lectureship on the United States Constitution in the College of Liberal Arts, the lectures to be given by eminent authorities each year, to be open to the public, and to be printed in book form for dissemination after delivery. A campaign for an additional endowment of \$1,500,000

was successfully completed during the year by the College of Liberal Arts, \$1,100,000 being raised by pledges and \$400,000 the gift of the General Education Board. Dr. Daniel L. Marsh of Pittsburgh, Pa. A.M., D.D., LL.D., was elected president of the university on December 30, 1925, and inaugurated February 1, 1926, to succeed Dr. Lemuel H. Murlin, who resigned on January 1, 1925 to accept the presidency of DePauw University.

**BOTANY.** An International Congress of Plant Sciences, which constituted the Fourth International Botanical Congress, met at Ithaca, N. Y., August 16 to 23. The congress was attended by more than 700 members, the United States, Canada, most of the European countries and many others being represented. An International Conference on Flower and Fruit Sterility was held in New York City, August 11 to 13, which was attended by many foreign and American delegates to the Plant Congress at Ithaca, N. Y.

**NECROLOGY.** Among botanists of international reputation, the deaths of whom were reported during the year, were: William Bateson, director of the John Innes Horticultural Institution and well known for his contributions to genetics and biology, February 1; Luther Burbank, world famous plant breeder, April 11; William Fawcett, formerly director of the Botanic Gardens, Jamaica, known especially for his work in applied botany, August 14; J. S. Gamble, noted for his investigations in Indian forest botany, October 16, 1925; Eduard Hackel, eminent Austrian agrostologist, February 17, 1926; George Henslow, professor of botany, Royal Horticultural Society, December 30, 1925; J. H. Maiden, formerly director of the Botanic Gardens, Sydney, Australia, Nov. 15, 1925; G. R. Lyman, formerly in charge of the Plant Disease Survey, U. S. Department of Agriculture, June 7, 1926; C. V. Piper, specialist in forage crop investigations, U. S. Department of Agriculture, February 11; W. E. Safford, economic botanist, especially interested in the plant products of the American aborigines, January 10; Carlos Spegazzini, Argentinian botanist, especially known for his contributions to knowledge of the fungi of South America, July 1; and R. Schlechter, director of the Botanic Garden, Dahlen, Germany, Nov. 15, 1925.

**PHYSIOLOGICAL STUDIES.** Rose, in his recent book, *The Nervous Mechanism of Plants*, claims that plants, at least vascular ones, have a well defined nervous system which he believes functions very much like the nervous system of animals. The phloem is said to be the conducting tissue, and apparatus was devised for detecting and measuring the excitation. Ball was able to transmit stimuli through water connections of severed branches of *Mimosa pudica* when care was taken to exclude air. The failure of others is attributed to the presence of air bubbles from the pith of the stems.

MacDougal, from recent studies on the hydrostatic systems of pine, oak and walnut trees, added testimony to the Dixon theory of a cohesive column of water as the essential element in water movement in the plant. Ursprung contributed data relating to the movement of water in plants. He claims there is a polarity of suction forces exerted by opposite sides of the same cell and that this polarity acting in cells of the root aids in carrying forward the movement of water in the plant as a whole.

The phenomena attending the entrance of dissolved substances into plants and the requirements for what are considered essential elements have been subjects of many investigations. Michaelis claims that the permeability of membranes for different ions in a surrounding solution can be readily studied by the use of the skin of an apple or by a collodion cell which he has devised. The apple skin is said to behave like a metallic electrode toward electrolytes dissolved in water. Clarke claims that the rate of absorption, rather than the final amounts taken up, is an important factor in cell activity. Hibbard found, after many years' study, that the ratio of salts in a solution may vary quite widely without appreciable influence on growth, provided all the essential salts are present in an assimilable form. Recent investigations have extended the number of essential elements for plant growth.

McHargue found that plants require manganese for their normal development. In sand cultures with a number of plants he found that the plants became chlorotic after the small amount of manganese in the seeds was used, and that their normal condition was restored when manganese was added to the cultures. He believes that manganese has an importance in chlorophyll synthesis equal to that of iron and that it cannot be replaced by other elements. Similarly Bertrand and Rosenblatt found manganese in a great variety of plants, the highest content occurring in organs whose biochemical activities were the most intense. Bertrand reports that nickel and cobalt are absorbed and retained in small quantities by plants, and later experiments with animals are thought to indicate that certain chemical elements in infinitely small amounts may play an important rôle in biological activity. McLain cured chlorosis in spinach by spraying plants with a manganese solution. Sommer and Lipman claim that boron and zinc are indispensable to the normal life and growth of a considerable number of species of plants. Levine found that selenium compounds, when given in great dilution, stimulated growth of plants.

Since the announcement of Garner and Allard that plants were intimately affected by the length of day in which they were grown (YEAR BOOK, 1920, p. 83), there have been many investigations carried on to confirm their conclusions regarding photoperiodism and to find an explanation for the phenomenon. Additional experiments of Garner and Allard with *Cosmos sulphureus*, a typical short-day plant, are said to indicate that while darkness does not initiate flowering, it does not inhibit the formation of flower buds under the action of a short daily light period in other parts of the same plant. Adams found that reducing the daylight period from 15 to 12 hours had little effect on tomato plants. However, soy beans flowered earlier and hemp nettle and *Trifolium dubium* later, under the influence of the shorter day. Castor beans were grown from seed to seed production under continual electric illumination. Wheat, buckwheat and soy beans grew better under natural light conditions than under daylight supplemented with electric light. Wheat and sunflowers blossomed earlier and hemp later under supplemented light. Two hours' illumination at midday was equal to three hours in the morning or afternoon, as indicated by the growth, weight

and flowering of a number of species of plants. Adams believes that temperature, as well as period of illumination, must be considered, and he claims that they are equally important and interchangeable for the growth of winter rye and winter wheat at Ottawa, Canada.

In Porto Rico, MacClelland found that Bermuda onions and radishes were favored by prolonging illumination so as to equal the length of the longest day of the year, while roselle, zinnia, poinsettia, soy beans and others flowered and matured quickest in a day corresponding to the shortest days of the year. Pfeiffer claims that plants with short exposure to light are usually low in carbohydrate and in protein reserves. Increasing the period of illumination also increased the carbohydrate reserves without proportional increase in proteins. The maximum growth in height and differentiation of tissues occurred in tomatoes with 12-hour illumination and in buckwheat with 17 hours. Deats found plants differently affected by length of day illumination, and he attributed it to changes in the carbohydrate-nitrogen ratio in the plants. Gilbert found that response to relative day length may be materially influenced by temperature and humidity conditions. High-temperature short-day plants flowered earlier than high-temperature long-day ones. Low-temperature plants vegetated for much longer periods when under either long or short day effect. Setchell claims that temperature is the one controlling factor in flowering of plants, and not the moisture variable or the hours of daylight. Waters found that sporulation of the bean rust was hastened by increasing the hours of light and that continuous lighting shortened the period of host infection by 24 hours.

Maximow, in a paper before the Botanical Congress at Ithaca, N. Y., reported the results of investigations on the water relations of plants that are somewhat at variance with the usually accepted views. He claims that xerophytic plants transpire intensely and have high water requirements, while shade mesophytes lose water slowly. During the hottest, driest periods xerophytes have their leaves in a state of permanent wilting, but on account of their structure they are able to endure wilting better than mesophytes. The capacity to endure wilting without injury is the chief peculiarity of drought-resistant plants.

A considerable number of investigations were reported on prolonged vitality and factors which influence germination of plants. Holman and Brubaker reported that pollen has retained its vitality for 336 days under favorable conditions and that pollen of a large number of plants survived storage in air-dry conditions for several weeks when protected from light, high humidity and fluctuating temperatures. This information should be of value to plant breeders, generally. Nelibow has found a method for the rapid determination of the viability of seeds based upon their response to certain coloring agents. Oppenheimer claims that many seeds do not germinate while attached to the mother plant by reason of a lack of water, the presence of acids in the plant and the occurrence of inhibitory substances that disappear in the after-ripening of the seeds. Brink found that yeast vitamine stimulated the growth of pollen tubes and that similar growth-promoting substances occur in the juice of raw potatoes and extracts from the gynecium. Votschal found

that yeast vitamins stimulated the development of yeast and molds and considers the effect as being catalytic. Popoff claims that the stimulating effects of seed treatments are due to increased oxidation processes which accelerate life processes and react on growth and cell increase. To be stimulating to germination, substances must have a decided affinity for oxygen.

Gleisberg believes that the stimulating effect of chemical seed treatments may continue in the growth of the plant. Denny, in reporting on the effect of chemicals in hastening the sprouting of potato tubers, found that chlorhydrin and sodium and potassium thiocyanate solutions were effective in hastening the germination of dormant tubers. Thiourea also was found to force germination, and it caused the simultaneous development of sprouts from all eyes of the tubers and several sprouts from the same eye. The inhibiting effect on germination was destroyed by the treatments, and the tubers did not require the long period of afterripening of normal development. A practical application of these results is seen in the adoption of this method for growing potatoes as a winter crop in tropical regions from certified seed potatoes produced in northern latitudes.

**PLANT DISEASES.** Plant diseases continue to take a heavy toll from many of our most important crops. The *Plant Disease Reporter*, Supp. 49, published estimates of losses due to diseases of important crops in 1925 as follows: Wheat, 80,864,000 bu.; rye, 914,000; barley, 27,049,000; oats, 118,535,000; corn, 254,555,000; potatoes, 86,026; sweet potatoes, 6,039,000; beans, 1,866,000; apples, 22,716,000; peaches, 2,975,000; pears, 3,221,000 bu.; and cotton, 1,171,000 bales. Much of this loss could have been prevented by the wider adoption of control measures, the efficiency of which has been demonstrated.

The wheat disease situation in the United States in 1926, so far as the stem rust, *Puccinia graminis*, was concerned, was on the whole very satisfactory. In the winter wheat areas there was comparatively little loss aside from a portion of Arkansas and in Arizona and southern California. The damage done in the latter region was quite severe. In the spring wheat area some rust was observed during the latter part of July, but by reason of its late appearance the damage was not great. While the stem rust situation was favorable on the whole, the leaf rust, *P. triticea*, was widely spread, the cool, late spring apparently favoring it, and in Oregon considerable injury to spring wheat was reported. The campaign that has been in active progress since 1917 in 13 of the central wheat growing states for the eradication of the common barberry, which is the alternate host for the rust fungus, is making satisfactory progress. More than 14,000,000 barberry bushes have been destroyed and local infections of rust have been greatly reduced. Coarse crushed salt heaped about the bushes is the most effective means for destroying barberry yet found.

The white pine blister rust, known in eastern United States for many years, was first reported on the Pacific Coast in Vancouver and Washington in 1922. It had spread there to the south and east, and late in 1925 it was found in Oregon, 100 miles south of the mouth of the Columbia River. Efforts were being made in the East and in the West to prevent the spread of this disease through the destruction of wild currants and gooseberries, which are the alternate

hosts of the fungus and from which it spreads to the pine. The form of the fungus on the pine cannot infect other pine trees. Federal and state funds available for blister rust control in 1926 were \$572,720, and for 1927 \$636,410 has been provided. A new gall disease of the Scotch pine has been found recently in three localities in New York, and it is feared that it may become a menace to the growing of that and related species of pine. Its injury to the Scotch pine is said to be undoubted.

The citrus canker situation seemed to be very well in hand, and aside from a few localities in Louisiana and Texas the disease appears to have been eliminated. The Florida Plant Board, which is the active agency in citrus canker control in that State, reported on Sept. 30, 1926, that there were no properties within the State that were classed as actively infected.

There was probably no class of plant diseases that was receiving so much attention of investigators during the year as the so-called infectious chlorosis, mosaic or degeneration diseases. Many important crops are involved and the aggregate losses due to these diseases are very great. It has been estimated that the potato crop of the United States in 1925 was reduced by 19,500,000 bu. through these diseases. Their cause is still a matter of controversy. Dr. Sophie Eckerson reports the presence of motile, flagellate organisms, probably protozoans, in wheat and tomato plants which showed symptoms of mosaic, and Jones has described a mycetozoon obtained from tobacco with mosaic-like symptoms. Somewhat similar organisms were cultivated from mosaic tomato plants, from leaf roll potato plants and from the intestinal tract of aphids feeding on mosaic plants. Olitsky claimed to have grown the causal organism of mosaic of tobacco and tomato in culture media (YEAR BOOK 1925, p. 99), but Purdy was unable to obtain such evidence and Mulvania had similar experience. Dickson found that the expressed juice from mosaic tobacco plants, after being kept sealed in bottles for five years, retained its power to infect sound plants.

Duggar and Armstrong have shown that juice of the pokeweed, although the pokeweed is subject to mosaic, inactivates the agency which causes tobacco mosaic. Murphy and McKay in Ireland, and Bolley in North Dakota, have found that mosaic and leaf roll of potatoes may be transmitted through the true seed as well as through the tubers. Fernow made a study of 19 species of plants subject to mosaic and found eight distinct types of mosaic and all but one species of plant were infected by one or more of the mosaics on other plants. When plants were inoculated with two or more mosaics, symptoms were produced that are believed to explain much of the confusion in the description of the diseases by various investigators. At least a dozen forms of mosaic, or degeneration diseases, have been described from the potato. Dickson claims that the so-called streak disease of tomatoes is the result of a double infection with potato and tomato mosaics. Kunkel found that aster yellows could be transmitted by leaf hoppers to 50 species of plants and that on each host the symptoms of disease were quite characteristic for that species. An infectious leaf curl of cotton in Nigeria was described by Jones and Mason, and Bennett reported five distinct virus diseases of raspberries. Tobacco mosaic has been



found in southern Rhodesia where it attacks a common weed, *Ceratotheca triloba*, in addition to tobacco.

Considerable progress has been made in methods for the control of plant diseases. Summarizing investigations for the Crop Protection Institute, Lambert and Rodenhiser claim that the best control of stinking smut, or bunt, of wheat and the smuts of hull-less oats was by the treatment of the seed before planting with two or three ounces of copper carbonate per bushel. Formaldehyde, 1 to 320 solution, controlled smuts but frequently impaired germination. Formaldehyde sprayed over common oats gave the best control of smuts, copper carbonate being much less effective. Formaldehyde treatment was the best for the control of covered smut of barley. Fraser and Simmonds and many others secured the same results with copper carbonate dust for the control of bunt of wheat. This method is extremely practical and is coming into wide use as a substitute for the less desirable and more troublesome method of soaking seed in fungicides. A number of mercury and phenol compounds have been placed on the market recently, and several of them have proved valuable for the control of some seed-borne diseases.

The comparative efficiency of fungicides applied as dusts and as sprays was a matter of variance of opinion. In general it seemed that dusts were more easily applied, but more material was required and dusts were not so adhesive as sprays on many plants. For the control of some orchard and truck crop diseases either can be used with profit. For the control of potato diseases, especially the late blight, Bordeaux mixture, to which an arsenical is added for insect control, has given the best results. In any method of treatment with standard fungicides the efficiency depends very largely on the completeness of covering all the foliage, rather than on the strength of the materials used.

**BOTULISM.** The impression seems to have been obtained in some quarters that botulism has been practically conquered by sanitation, but this is far from the truth. According to an unsigned article in the *Journal of the American Medical Association* for February 13 occasional epidemics continue to appear in the United States. The incidence of the disease was brought up to 1922 in *Public Health Bulletin*, No. 127, from which it appears that beginning with the earliest reports, which antedate bacteriological control, there had been 91 single or group outbreaks in the United States and Canada with totals of 345 cases and 213 deaths, a mortality of 61.7 per cent. Since 1922 there had been recorded 56 additional outbreaks, a few of which antedated that year but escaped recording. The total number of additional cases is 159 with 124 deaths, a mortality of 78 per cent. The grand totals are therefore 504 cases with 337 deaths (66.8 per cent), the total number of outbreaks being 147. The average annual outbreaks number 13 and the highest number was 21 in 1922. In the majority of these outbreaks the food was home canned and apparently any product of canning may be infected. Commercially canned food products infected comprise such varied articles as olives, spinach, clam juice, duck paste, and in more recent years meats, sardines and peas. The food is in the majority of cases openly spoiled but in many episodes there was no sensible spoilage. The majority of the out-

breaks have occurred in the Far West, and while many have appeared in the Middle West the food was sometimes put up in the former area. But few episodes have occurred in the East and none at all in the South. It has been ascertained that there are two different strains of the *Bacillus botulinus* which produce different toxins, distinguished as A and B. This distinction is all important in the serum treatment, for different antitoxins are required. Thus far the large majority of cases have been due to the A strain.

**BOVINE TUBERCULOSIS.** See VETERINARY MEDICINE.

**BOWDOIN COLLEGE.** An institution of higher education at Brunswick, Maine; founded in 1794. In the autumn of 1926 the total registration of 544 students included 116 in the senior class, 92 in the junior class, 152 sophomores, 180 freshmen, and 4 special students. Two additional members of the faculty appointed after June, 1926 increased the total to 42. The amount of the productive funds was \$4,300,100, and the income for the year amounted to \$241,000. The library contained 136,000 bound volumes. President, Kenneth Charles Morton Sills, LL.D.

**BOWLING.** The twenty-sixth annual tournament of the American Bowling Congress was held at Toledo, Ohio, the winners in the various events being; individual, E. Votel, Braddock, Pa., with a score of 731; two-man team, Aston-Young, Akron, Ohio, 1355; five-man team, Castany, Chicago, 3063; all events, Gertoski, Detroit, 1981.

**BOXING.** Six new champions were crowned in the professional boxing world in 1926, the most notable event being the defeat of Jack Dempsey, heavyweight title holder, at the hands of Gene Tunney. This fistie battle took place at Philadelphia, September 23, and attracted the largest attendance in the history of the ring game. The paid attendance was 118,736 and the receipts \$1,895,723. A terrific rainstorm raged during the bout which went the full distance, ten rounds. Although there were no knockdowns Tunney showed marked superiority throughout over the champion, who had been out of competition for a period of three years and who also had been subjected to continuous legal worries during his training preparations.

Other upsets of the year were the winning of the middleweight title by Tiger Flowers from Harry Greb, and Flowers' subsequent loss of the championship to Mickey Walker; the overthrow of Mickey Walker as welterweight champion by Pete Latzo; the defeat of Rocky Kansas, lightweight title holder, by Sammy Mandell, and the capturing of the light heavyweight honors from Paul Berlenbach by Jack Delaney. The three champions who retained their laurels were Fidel La Barba, flyweight, Charley Phil Rosenberg, bantamweight, and Tod Morgan, junior lightweight. Louis Kid Kaplin, after successfully defending his featherweight title by knocking out Bobby Garcia, surrendered the championship to enter the lightweight ranks where he met immediate defeat.

Boxing flourished among the amateurs and in college circles. The winners of the national Amateur Athletic Union championships were; 112 pounds, Lawrence Lyons, Pittsburgh; 118 pounds, Joseph Katkish, Pittsburgh; 126 pounds, Patsy Ruffalo, New York; 135 pounds,



Thomas Lown, New York; 147 pounds, Edward Tierman, New York; 160 pounds, Arthur Flynn, Lawrence, Mass.; light heavyweight, Henry Lamar, University of Virginia; Heavyweight, Armand Emmanuel, San Francisco. The team of the United States Naval Academy carried off the intercollegiate boxing honors.

**BOYLE, EMMET DERBY**, Governor of Nevada 1915-23, died January 3. He was born in Virginia City, Nevada, July 26, 1879, and after graduating from the University of Nevada with the degree of Bachelor of Science practiced mining engineering, being connected with many important companies as mining engineer and superintendent until 1907 when he took up consulting practice. He received the degree of Engineer of Mines from the University of Nevada in 1903 and served as state engineer 1900-10, and a member of the State Tax Commission, 1913-14. He was elected governor of Nevada for two terms serving 1915-23, and in 1918-19 he was a member of the United States Treasury Department Commission on Gold Production. In addition to his mining interests he was the publisher of the *Nevada State Journal* in Reno, and president of the Security Finance Company of the same city. He was also president of the Reno Chamber of Commerce and a member of various mining and other societies.

**BOYLESVE**, hwi'läv, RENÉ. French novelist and member of the French Academy, died at Paris, January 14. He was born at La Haye-Descartes (Indre-et-Loire), April 14, 1867, and was educated at the Collège des Jésuites in Poitiers, at the Lycée de Tours, and studied at the University of Paris in both Faculty of Letters and Law and the School of Political Science. He was made a member of the French Academy in 1919 in recognition of some notable novels which showed striking diversity. He early had the ambition to become a poet, but he found that novel writing was more to his taste, because this form of expression enabled him not only to show his poetic fancy, but a realism in which irony and humor as well as tragic tendencies were exhibited. He wrote under the pseudonym René Tardiveau. His first important novel was *Le Médium des Dames de Néans* (1896); which was followed by *Sainte-Marie-des-Fleurs* (1897); *Les Bains de Bade* (1897); *Le Parfum des Iles Borromées* (1898); *Mademoiselle Cloque* (1899); *La Becquée* (1901); *La Leçon d'amour dans un parc* (1902); *L'Enfant à la balustrade* (1904); *Le bel Avenir* (1905); *Mon Amour* (1908); *Le meilleur Ami*; *La jeune Fille bien élevée* (1909); *La Marchande de petits pains pour les canards* (1913); *Madelaine jeune Femme* (1913); *Tu n'es plus rien* (1917); *Le Bonheur à cinq sous* (1917); *Nymphes dansant avec des satyres* (1920); *Elise* (1921); *Le Carrosse aux deux lézards verts* (1922).

**BOY SCOUTS OF AMERICA**. An organization incorporated in 1910 and chartered by Congress in June, 1916, to develop the character of boys and train them for the duties of adult life by influence brought to bear in their work and play. The National Constitution of the Boy Scouts of America declares the intention to "promote the ability of boys to do things for themselves and others, to train them in scout craft and to teach them patriotism, courage, self-reliance and kindred virtues." Each boy joining the organization takes the Scout Oath,

and the Scout Law requires the members to exert such qualities as trustworthiness, helpfulness, loyalty, kindness, cheerfulness, bravery, cleanliness, and reverence. Among the foremost scout activities are camping and hiking, nature study, and many kinds of outdoor work, exercise, and craftsmanship. Successive ranks in membership are attained by passing tests graded in difficulty. Merit badges, 71 in number, may be attained by meeting requirements for each. These cover proficiency in pursuits both of the useful and of the hobby type, such as dairying, plumbing, pioneering, physical development, astronomy, music, chemistry, and others equally diverse. By attaining certain numbers of the merit badges, a boy may rise to the higher ranks of Star, Life, and Eagle scout.

In 1926, 310,000 boys spent a week or more in camp under Boy Scout auspices. Local councils conducted 569 camps; at least 2200 troop camps were also conducted. The Boy Scout movement, in coöperation with the Forestry Department, fights and prevents forest fires, conserves wild life, and plants trees. It renders services in local campaigns of various sorts and coöperates with many national societies and movements. Membership in 1926 was 626,875, with 172,726 scout leaders. The National Council, the governing body, has its offices at 200 Fifth Avenue, New York. In 1926 the officers were Walter W. Head, Omaha, Neb., president; George D. Pratt, treasurer; James E. West, Chief Scout Executive; Daniel Carter Beard, National Scout Commissioner; Mortimer L. Schiff, International Commissioner. Regional scout districts, 12 in number, under direct supervision of the National Council's National Scout Executives, were subdivided in 1926 into 668 local councils, of which 637 supported paid executives and maintained permanent headquarters. The boys are organized into troops of 32 each. The troops are made up of patrols of eight or less, each under a boy leader. A scoutmaster commissioned by the National Council is provided for each troop. He must be an adult citizen of proved fitness. Troops are commonly formed in connection with schools, churches, or other existing bodies, and each must be sponsored by a troop committee of three or more adults, who select the scoutmaster and supervise the execution of the programme. The movement is non-sectarian, and without military or political connection. The official magazine is *Boys' Life*. The organization also publishes magazines for scout leaders, merit badge pamphlets, and other material.

**BRANT**, JACOB. An Indian descendant of Capt. Joseph Brant, died at Buffalo, N. Y., December 28. He was born in 1856 on the Tyendinaga Indian reservation in Ontario, Canada, being a direct descendant of the famous Indian chieftain of the Six Nations of the Iroquois during the American Revolutionary War. He was active in his early years as a representative of his tribe before the Canadian Government and was known as an orator of force. He addressed the Canadian Parliament at various times in defense of the tribal rights and privileges granted the Mohawks for their aid to the English during the Revolution. At the time of his death he was engaged in the construction of a new home in the city of Buffalo.

**BRAZIL**. The largest of the South American republics; situated in the northern and eastern part of the continent of South America; a

federal republic. Capital and largest city, Rio de Janeiro.

**AREA AND POPULATION.** The area of Brazil is given as 3,286,318 square miles, which gives it an area more than 250,000 square miles greater than that of continental United States. The country is divided into 20 states, one territory and one federal district. According to the census of 1920 the population of the republic was 30,635,605, which represents a density of 9.3 inhabitants to the square mile. The principal cities with their populations, according to the same census are: Rio de Janeiro, 1,167,873; São Paulo, 579,033; Bahia, 283,422; Recife, 238,843; Belem, 236,402; and Porto Alegre, 179,263.

The total number of immigrants entering Brazil in 1925 was 84,883. This was less than in either of the two years immediately preceding, but it was as large as was expected in view of the unsettled conditions in the principal centres of immigration. The three leading sources were Portugal, Spain, and Italy, they being also the three leaders in the grand total of immigration since statistics have been kept. German immigration decreased 70 per cent from 1924 when it was exceeded only by Portugal. On the other hand, Yugoslav and Rumanian immigration which increased greatly during 1924, continued to hold an important position and Japanese immigration increased notably. The total number of immigrants during each of the last five years was as follows: 1925, 84,883; 1924, 98,125; 1923, 86,879; 1922, 66,967; and 1921, 60,784.

**EDUCATION.** Education is free but not compulsory, except in seven states where it is both free and compulsory. According to the latest available statistics, those of the census year, 1920, there were in the various states, 21,748 primary schools with 1,249,449 pupils. 447 were federal government schools, 9612 state government schools, 4712 municipal schools, and 6977 private schools. There were also 450 secondary schools with 48,000 pupils, and 367 professional schools with more than 37,000 students. The university of Rio de Janeiro is the only official university in Brazil.

**PRODUCTION, ETC.** Owing to the vast extent of its agricultural area, the average land holding is of large size. Only a comparatively small portion of the cultivable area is under crops, but recent statistics indicate a rapid increase in the amount, which in 1923 was placed at about 175,104,657 hectares. The chief crop and by far the most important commercially is coffee, which is raised in an area covering about one-eighth of the total country and comprising the four states of São Paulo, Espírito Santo, Rio de Janeiro, and Minas Geraes. Approximately four-fifths of the world's supply comes from this area and one-half of the world's supply from the state of São Paulo alone. The annual crop is estimated at 12,000,000 sacks of 132 pounds each. The crop for 1925-26 was estimated at 850,011 metric tons. There is a large variety of other crops of which the most important are cacao, sugar, cotton, rubber, rice, tea, and tobacco. See the preceding YEAR BOOK for the latest statistics on agricultural products.

Gold, diamonds, manganese, monazite, and mica are among the principal mining products of Brazil. The United States Bureau of Foreign and Domestic Commerce reported in 1926 that the latest available statistics are for the year 1924.

According to that authority, the mica industry recorded for 1924 the highest export for five years, 76 metric tons being exported. Manganese mining continued to be hampered by inadequate transportation, and shipments from Rio de Janeiro during the year reached only 151,043 long tons of which 106,830 went to the United States. Manganese production in the Rio district amounted to 175,768 long tons in 1924, and the stocks on hand at the close of the year to 56,844 tons. The production of gold from the two principal mines was valued at £521,359 in 1924 as compared with £605,881 in 1923. Diamond mining was not so active in 1924 as in previous years. The export value in the former year was 32 per cent less than in the year previous. Monazite and zircon, generally mined together, are found with ilmenite in surface deposits in the state of Espírito Santo. The forests are very extensive and an important source of wealth. Manufacturing is of comparatively little importance, but is increasing rapidly. The principal single industry is cotton milling which employs about 60 per cent of the people engaged in manufacturing. Silk manufacturing is being encouraged, chiefly in the form of a government subsidy to silk cocoon producers.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce. Brazil, in 1925, had a total foreign trade of 7,444,954 contos, the largest in the history of the country, but the favorable balance of trade was only 582,838 contos—the smallest since the disastrous year of 1921. Converting these two figures into dollars at the average rate of exchange for the year they represent approximately \$894,883,470 and \$70,106,000 respectively. Exports during 1925 were valued at 4,013,896 contos, compared with 3,863,554 contos in the preceding year—an increase of 150,342 contos or approximately 3.8 per cent. There was a slightly larger increase in tonnage, this being 4.6 per cent. Exports, in tons of 2200 pounds, were 1,919,201 in 1925 and 1,834,859 in 1924. Imports in 1925 were valued at 3,431,058 contos, compared with 2,789,558 contos in 1924, an increase of 641,500 contos or 23 per cent. Imports by quantity were 4,427,560 tons in 1924 and 4,843,513 in 1925, an increase of 9.4 per cent. The movement of trade during the past five years, in quantity and value, follows:

BRAZILIAN FOREIGN TRADE

Year	1,000 tons		Contos	
	Imports	Exports	Imports	Exports
1921.....	2,578	1,919	1,689,839	1,709,722
1922.....	3,264	2,122	1,652,630	2,382,084
1923.....	3,576	2,229	2,267,159	2,297,033
1924.....	4,428	1,885	2,789,557	3,863,554
1925.....	4,844	1,919	3,431,058	4,013,896

The tendency during recent years has been for a greater expansion of imports. Exports have increased, though only in value, and that can be accounted for by higher coffee prices. Exports of coffee in 1925 were smaller, in quantity and value, than in 1924. Exports in 1925 were 13,480,000 bags valued at 2,899,587 contos, compared with 14,266,000 bags in 1924 valued at 2,928,572 contos. The average value of a bag of coffee exported in 1925 was 215 milreis, against 206 milreis in 1924, although in dollars these values were approximately \$25 and \$22, respectively, the rate of exchange being 8.314 in 1925 and 9.181 in 1924. In 1925, coffee accounted for

72.2 per cent of the total exports. The Brazilian export trade during 1925 was marked by radical changes in leading exports, and the following table shows the quantity and value of the 13 leading products for 1924 and 1925:

## PRINCIPAL EXPORTS FROM BRAZIL

Item	Quantity		Value	
	1924 1,000 bags	1925 1,000 bags	1924 Contos	1925 Contos
Coffee .....	14,226	13,480	2,928,572	2,899,587
Rubber .....	21,568	23,537	79,212	191,803
Cotton .....	6,464	30,271	38,989	124,494
Hides .....	52,048	55,660	103,290	116,982
Yerba mate .....	78,750	86,540	87,952	107,277
Cacao .....	68,874	64,544	98,174	99,862
Tobacco .....	29,586	34,914	74,796	90,827
Oilseeds .....	96,791	85,348	100,676	75,368
Frozen and chilled meats .....	75,312	57,077	88,575	70,334
Skins .....	3,253	3,366	35,975	34,152
Manganese .....	159,229	311,882	18,258	31,476
Timber .....	150,072	130,458	29,828	27,172
Sugar .....	34,466	3,182	30,276	2,258

Coffee continued to be the leading item of export, although it showed a decrease of approximately one per cent in value and five per cent in quantity. Rubber returned to second place as an important export after an absence of 13 years, the 1925 figure being 191,803 contos, the largest since 1912, when exports were valued at 241,425 contos. The increase over 1924 in quantity was only 1969 tons, but value increased from 79,212 contos to 191,803, or approximately 142 per cent. The average export value per ton of rubber in 1925 was 8149 milreis, compared with 3673 milreis in 1924.

Following rubber, was cotton, exports of which increased 200 per cent in value during 1925, compared with 1924. This tremendous increase may be accounted for by the severe industrial and credit depression that existed in Brazil during the latter part of 1925. The textile industry was especially affected, the mills having large stocks of raw materials on hand and no market for the product, were forced to curtail purchases, and shipments of raw cotton were sent abroad. Cotton prices dropped considerably in 1925, an export ton being quoted at 4113 milreis, compared with 6031 milreis in 1924. Other important export commodities showing increase in 1925 were hides, yerba mate, cacao, tobacco, and manganese. Oilseeds ranked third in value in 1924, but in 1925 were reduced to eighth place, the decrease being from 100,676 contos to 75,363 contos. Exports of frozen and chilled meats fell off, as did skins, timber, and sugar. In the case of the latter, 1925 exports were only 2258 contos, while in 1924 the figure was 30,276 contos, a decrease of 92 per cent.

The 1925 trade of the port of Santos totaled 3,478,787,842 milreis, compared with 3,095,329,981 milreis in 1924—an increase of 383,394,861 milreis, or 12 per cent. The magnitude of this trade is better realized when it is known that of Brazil's entire 1925 trade of 7,444,954,000 milreis, Santos contributed 46.7 per cent. Coffee exports from that port were responsible for 2,075,165,985 milreis, or over half of the total export and import trade in 1925. Total exports during 1925 were 2,192,149 contos, compared with 2,125,597 contos in 1924, an increase of 9 per cent. The largest export commodity was, as usual, coffee, its value in 1925 being 2,075,165 contos, compared with 2,030,985 contos in

1924. Bags of coffee exported decreased in 1925, being 9,101,065 compared with 9,505,808 in 1924. The leading exports and their values for 1924 and 1925 are given below:

PRINCIPAL EXPORTS FROM SANTOS  
[Value in milreis]

Item	1924	1925
Raw cotton .....	4,758,336	45,496,967
Hides .....	5,458,252	7,831,445
Oilseeds .....	5,666,714	4,655,214
Coffee .....	2,080,985,531	2,075,165,985
Frozen and chilled meats	49,765,215	32,148,963
Bananas .....	15,358,706	10,627,068
Cottonseed-oil cakes .....	4,195,955	6,612,616

Total .....

FINANCE. Undoubtedly one of the questions which of late years has most interested bankers, business men, and investors who follow developments in Latin America has been that connected with the efforts of Brazil to emerge from the disordered financial conditions of the war and postwar years. Since 1914, as is generally known, the industries and the internal trade of Brazil have expanded notably; new productive regions have been brought into development; and the entire economic equipment of the country has been enlarged and placed on a firmer basis than ever before. Such national expansion, under the circumstances of those abnormal years, put a certain strain on the financial capacity of the country. The reaction upon the federal treasury was seen in annual deficits of really alarming proportions. The succession of unbalanced budgets and issues of depreciating paper money finally brought conditions to a point where it was generally realized that only the most adroit and vigorous management of public affairs could effect a reform. Fortunately, much progress has been made during the past three years in effecting economies, increasing revenues, and reducing inflation. The gradual financial improvement during the past three years is shown in the following table of revenues and expenditures:

BRAZILIAN REVENUES AND EXPENDITURES  
[In contos of reis<sup>a</sup>]

Items	1922	1923	1924	1925
Gold:				
Revenues ..	75,397	98,901	131,686	158,039
Expenditures	83,767	86,730	88,923	80,624
Paper:				
Revenues ..	653,475	742,243	946,602	1,018,189
Expenditures	1,074,180	1,021,385	1,229,667	1,366,163
Net deficit in terms of paper	448,952	224,373	90,631	<sup>b</sup> 340

<sup>a</sup> 1 conto = 1,000 milreis. 1 gold conto = \$546. 1 paper conto = about \$145 at present exchange rates.

<sup>b</sup> Surplus.

The reduction and final elimination of the deficit are due to rigid adherence to the programme announced by President Bernardes when he took office in 1922. The task was extremely difficult, for it was necessary to overcome established official customs, reduce allowances, deny urgent demands for appropriations, levy new taxes, and introduce more rigorous methods in the collection of revenues. The results of 1922 are indicative of the conditions faced by the new administration. The effort to balance the budget was not successful in 1923. New taxes were assessed on mercantile sales and on general income, the expenditures on public works were restricted, and administrative procedure was improved. It was necessary, however, to devote

large sums to pending obligations, to the service of the floating debt, and to the payment of provisional bonuses to public employees. Appreciable progress was made in 1924, and had it not been for the expenditures necessitated by the revolutionary disturbances of that year, a surplus might have been realized. Revenues gained considerably, in large measure attributable to the improved organization of the treasury. The results of 1925 may be considered gratifying, since the country experienced a rather trying commercial depression and financial stringency in that year.

The Congress passed the estimates of revenue for 1926, but failed to act on the appropriations for expenditures; therefore, the latter were automatically extended from 1925. The final form of the budget for 1926, as promulgated on January 2, was as follows:

## BRAZILIAN BUDGET FOR 1926

	Gold	Paper	Total
	Contos	Contos	Contos
Revenue .....	121,646	1,097,716	1,566,917
Expenditure .....	84,413	1,044,599	1,370,188
Surplus .....	37,233	53,117	196,729

There had been little recent movement in the external funded debt of the Federal Government, no new loans having been contracted in 1923, 1924, or 1925. The foreign debt at the end of 1925, as given in the annual message of the president, was composed of obligations totaling £102,529,944, 336,548,500 French francs, and \$63,717,167. The reductions effected during the year amounted to £93,350, 59,000 francs, and \$3,333,333. The internal funded debt increased from 1,541,000 contos at the end of 1922 to 2,137,424 at the end of 1925. The new issues were largely for railroad acquisition and improvements, irrigation, and other public works.

COMMUNICATIONS. The president in his message to Congress on May 3, 1926, gave statistics concerning both shipping and railroads. For the years 1923 to 1925, 83,857 vessels of 97,912,177 tons had entered the ports of Brazil. The amount of freight carried by the ships entering Brazilian ports in 1923 was 7,039,555 metric tons; in 1924, 7,969,726 tons; and in 1925, 8,522,769 tons. He stated that on Dec. 31, 1925, the length of railways in Brazil was 30,636 kilometers. The following new sections were opened to traffic in 1925:

	Railroad	Length Kilometers
Ingazeiras to Missão Velha .....	Baturité .....	25
Baratinha to São Carvalho .....	Victoria-Minas .....	16
São José dos Campos extension .....	Central of Brazil .....	6
Cabralia to Duartina .....	São Paulo .....	12
On Pirajuby Branch .....	Northwest of Brazil ..	10
Carmo de Cachoeira to Cerro .....	Minas Southern .....	15
Indayá to Mello Vianna .....	Paracatu .....	22
Alfenas to Cayanna .....	Machadense .....	25
Alto da Serra to Jussaraí .....	Minas Western .....	16
Ibiá to Presidente Bernardes .....	Minas Western .....	33
Uberaba to A. Campos .....	Minas Western .....	83
Pinhalão to Arthur Bernardes .....	São Paulo-Rio Grande ..	26
Esplanada to Caeté .....	Dona Theresa Christina ..	30
On Brazilio to Jaguarão Branch .....	Rio Grande do Sul ...	16

The lines owned by the Federal Government are 17,957 kilometers in length; of these, 8726 kilometers are directly administered by the government, the balance being rented. An extension of 5310 kilometers of track is operated under concession from the Federal Government, 7369 kilometers are either owned by the states or operated under concessions from them. In October the Ministry of Transportation was reported to be considering the electrification of the Central do Brazil, work to commence before the end of 1926. The work of electrification was to be commenced in the suburban district of Rio de Janeiro, and be carried out for a distance of about 40 miles. The electrification was to be financed by the national treasury. When the project was first considered in 1922, bids were offered by two American firms, and by two British construction companies, but were rejected by the government.

GOVERNMENT. The executive power is vested in the president, who with the vice-president is elected directly by the people for four years and is ineligible for reelection; and the legislative power in the National Congress which consists of the Chamber of Deputies and the Senate, the former having 212 members elected for three years by direct popular vote on the basis of minority representation, and the latter 63 members elected by direct vote for nine years, one-third being renewed every three years. The president at the beginning of 1926 was Dr. Arturo da Silva Bernardes, elected Mar. 1, 1922.

HISTORY. The Brazilian Congress opened its session on May 3 and in his message to it Pres. Arturo Bernardes spent practically all his time in going over the improvements that had taken place during 1925. He stressed very strongly the fact that for the first time since 1907 the budget had been balanced, and a surplus had remained. He stated it was only by means of a most rigorous campaign of economy that the above results were achieved despite the depreciation of the paper currency. He advocated constitutional reforms including a revision of the commercial code and the continuance in office in an unofficial capacity of the retiring officials to assist the new administration in an advisory manner. He also advocated the secret ballot and a compulsory election law, as well as the transfer of the capital from Rio de Janeiro to Goyaz in accordance with the constitutional provision making this change.

On the 15th of November, Dr. Washington Luiz Pereira de Souza assumed the office of President of Brazil, to which position he was elected in March. The new president was born in the State of Rio de Janeiro, Oct. 26, 1870. He began his advanced studies in the Colegio Pedro Segundo in the city of Rio de Janeiro in 1884, completing the course in São Paulo four years later. He matriculated in the law school of the latter city, from which he was graduated in 1891. He began the practice of law in the State of Rio de Janeiro, but, removing to Batataes in São Paulo, he took up his practice in that city, being shortly afterwards elected president of the municipal council. In 1904 he was elected to the State legislature where in 1905 he took part in the revision of the state constitution. In March, 1906, he was appointed Secretary of Justice in the administration of Dr. Jorge Tybiriçá, a position he continued to

hold during the succeeding administration under Dr. Albuquerque Lins until May, 1912, when he was again elected to the State legislature. In October, 1913, he was elected Prefect of the city of São Paulo, and in the same year he was nominated by the Republican Party of that state to succeed Dr. Altino Arantes as Governor of that state, being elected in the following March by a large majority for the four-year period 1920-24. After this he was elected to the federal senate, from which body he was elected president. Upon his inauguration, President De Souza announced the following cabinet: Foreign Affairs, Octavio Mangabeira; Finance, Dr. Getulio Vargas; Agriculture, Lyra Castro; Public Works, Dr. Victor Kondor; Justice and Interior, Dr. Vianna da Castello; Marine, Admiral Pinto da Luz; War, General Nestor dos Passos.

At his inaugural President De Souza promised to stabilize the milreis at a slightly lower rate than that proposed by his predecessor; the continuance of the policy of road construction throughout Brazil; and immediate relief from the existing coal shortage. Almost as soon as the new president was inducted into office he was met with a mutiny of some troops in the state of Rio Grande do Sul. He sent troops to suppress the rebellion and continued the state of siege, with the censorship of the press, etc., which had been enforced by President Bernardes. The mutiny took on the aspects of a rebellion when it spread to the states of Paraná and Santa Catalina. The press reported a number of successes for the revolutionists towards the end of November and in early December.

For the resignation of Brazil from the League of Nations, consult article on LEAGUE OF NATIONS.

**BREED, RICHARD EDWARDS.** American operator and organizer of public utilities, died at New York City, October 14. He was born at Pittsburgh, Pa., Mar. 17, 1866, and was educated at the University of Kentucky. He early became connected with various public utilities and organized the American Gas and Electric Company of which he became president, and at the time of his death was chairman of the board. He was also a director and member of the executive committee of the American Power and Light Company, of the Electric Power and Light Corporation, and of the Carolina Power & Light Company, as well as being a director of the Wheeling Bank and Trust Company, and many other corporations. He served on the staff of three governors of Indiana and was known as General Breed through rank thus acquired. He went to New York about 1906 and was identified with the control of various power developments and public utility organizations which had their headquarters in that city.

**BREIL, JOSEPH CARL.** An American composer, died at Los Angeles, January 23. He was born in Pittsburgh, Pa., June 29, 1870. While studying law and philosophy at the University of Leipzig, he at the same time pursued his musical studies at the Conservatory there. He began his career as a tenor with the Emma Juch Opera Company in New York (1891-92) and then lived in Pittsburgh (1892-97) as tenor soloist and choirmaster at St. Paul's Cathedral. For the next six years he toured the United States as conductor of various theatrical com-

panies. His compositions consist mainly of incidental music to plays and photoplays. His music to *Queen Elizabeth* (Chicago, 1912) is the first score written specially for a motion picture production. He also wrote a *Requiem*, two masses and a *Vesper Service*. His only serious opera, *The Legend*, was produced at the Metropolitan Opera House in 1919.

**BRETHREN, CHURCH OF THE.** A church established in the United States in 1719 at Germantown, Pa. It originated in Schwarzenau, Germany in 1708, and is the largest of the five branches of the denomination formerly known as the German Baptist Brethren or "Dunkers." Other churches of this group are: The Church of God (New Dunkards); Brethren Church (Progressive Dunkers); German Seventh Day Baptists, and Old Order German Baptist Brethren. The polity of the Church of the Brethren corresponds more nearly to the Presbyterian than to any other specific ecclesiastical form. It comprises 50 district conferences and holds a General Conference annually. Figures for 1926 showed 1033 churches and a membership of 126,711. Sunday Schools numbered 1198 and scholars 145,000. Foreign missionary work is carried on in India, China, Sweden, and Africa. The total membership in India and China was 4290 in June, 1926. Expenditures for the year ending Feb. 28, 1926 totaled \$305,949.12. Eight colleges, one academy, and one Theological Seminary and Training School are maintained by the denomination. In 1926 these had an enrollment of 3816 students. Officers of the General Conference in 1926 were: Dr. D. W. Kurtz, McPherson, Kans., moderator; J. W. Lear, Chicago, reading clerk; and I. B. Book, North Manchester, Ind., writing clerk. Otho Winger, North Manchester, Ind., is president of the General Mission Board. The *Gospel Messenger* is the official organ of the denomination. The *Missionary Visitor* is the promotional periodical of the General Mission Board. The headquarters of the General Mission Board, General Educational Board, General Sunday School Board, General Welfare Board, and the Council of Promotion are located at Elgin, Ill.

**BRIDGES.** In 1926 there was considerable activity in bridge building and design due in large measure to the increased use and development of highways and the necessity for their crossing bodies of water often of considerable width. In other words, the highway bridge of long span had become more important than the railway bridge, and with the heavy traffic on the more important highways and the heavier weights of motor vehicles, both busses and trucks, the design of such bridges had become a matter of no small importance. At or in the vicinity of large cities where a number of highways radiated from business centres into the surrounding country, this matter in many cases had become one of prime necessity, and the success of such recent structures as the Delaware River Bridge between Philadelphia and Camden demonstrated that similar provision could be made with advantage at other cities. Furthermore, where there were direct highways, and this applied not only to the populous districts in the vicinity of the larger cities but to long distance traffic routes, it was considered desirable to eliminate ferries or detours and, accordingly, a number of private toll bridges were proposed under special acts of State legis-

latures. In many cases this gave rise to the discussion as to the applicability of Federal aid to roads where toll bridges were elements of the route, and the Federal government, as was expressed in an opinion by Controller McCarl, claimed that it was in violation of the Federal-aid road act. On the other hand in some States the need of such conveniences on key routes of travel was so pressing, and there was a disinclination of State legislatures to incur a bonded indebtedness for their construction, that private projects met with encouragement, particularly where after a term of years the charter permitted the State to take over the project. The American Association of State Highway Officials at a meeting held in the autumn of 1926 adopted resolutions strongly opposing privately owned toll bridges.

**FIFTY YEARS' PROGRESS IN BRIDGE BUILDING.** Among the interesting papers presented at the Annual Convention of the American Society of Civil Engineers, held at Philadelphia from October 4 to 9, was one by Ralph Modjeski, engineer of the Delaware River Bridge, who spoke on "Fifty Years' Progress in Bridge Building." Using a historical review as a background to discuss the choice of form and design in the planning of the Delaware River Bridge, Mr. Modjeski referred to the better protection for men in the construction of deep foundations, the improvement of erection machinery, the use of alloy steels, and the development of knowledge and theory in actual design. Bridge building in large measure had utilized alloy steels as they were improved, and in many of the more notable structures a new type of alloy was employed as they were built. In the Eads Bridge chrome steel was used, for the Manhattan, Quebec, Metropolis, and Hell Gate Bridges, nickel steel, for the Memphis Bridge, Mayari steel, and finally the more recent but less strong material, silicon steel, which was employed in a considerable number of bridges.

As a result of earlier experience and studies, in the Delaware River Bridge nickel steel was used in the chords of the stiffening trusses and silicon steel in the webs of the trusses and in the main towers. The Delaware suspension bridge presented a marked contrast with the Brooklyn Bridge of fifty years previous, and Mr. Modjeski referred to the improvements adopted and also to the fact that the suspension bridge now was the predominant type for long spans. Among the changes in this period were the substitution of fixed saddles for roller-mount saddles, the elimination of expansion joints in the trusses, except in the form of rockers at the towers, the replacement of fixed stone towers by flexible steel towers, the elimination of top bracing, and finally the use of two cables in place of four, so as to afford a clear roadway.

**HUDSON RIVER BRIDGE.** During the year 1926 the Port of New York Authority, a body created by compact between the States of New York and New Jersey and ratified by Congress, had under way an important programme of bridge construction. Under the direction of O. H. Ammann, its bridge engineer, plans were developed for the construction of the Hudson River Bridge between Fort Washington on Manhattan Island and Fort Lee in New Jersey, which later received the approval of the U. S. War Department. Preliminary studies were made for this bridge through appropriations by the two States

amounting to \$200,000, which became available on July 1, 1925. As a result of these studies, it was revealed that there was an urgent demand for a bridge crossing for vehicular traffic and that the general location of the bridge between the points named was well chosen. Also, it was found that the bridge would have to be a single river span of at least 3500 feet, with a clear height above water of about 200 feet, and with its piers located within pier-headlines as established by the U. S. War Department. It was found that such a bridge would have to be of the suspension type, as the most economical and aesthetically fitting to the location and the special needs developed. Preliminary studies were made of a suspension bridge of simple construction and so planned that, built with a minimum initial expenditure, it could be enlarged as to its capacity as the traffic volume increased. Such a bridge could be opened for highway traffic, it was estimated, at a cost of \$50,000,000. Later it could be enlarged at an additional cost of between \$15,000,000 and \$25,000,000, when the vehicular and passenger traffic would have grown in volume to pay for such additional cost.

The elaborate studies made of the available traffic across the Hudson River clearly indicated the future success of the bridge, while an elaborate consideration of locations reduced the available sites to three in number, of which the one at 179th Street, Manhattan, was found to be the most economical, not only as regards construction, but also the most desirable with respect to approach grades, street connections, and natural setting. On this basis, after a study of other types of bridges and a consideration of borings, a tentative design was developed with a central span of 3500 feet between centres of piers or towers, or twice the span of the Philadelphia-Camden Bridge, the longest suspension bridge built up to that time. On the New Jersey side the rock cliffs of the Palisades were to form a natural abutment and anchorage, and on the New York side a side span of approximately 700 feet was planned, which would make a symmetrical arrangement. The clear height of the bridge floor above water was approximately 200 feet, so that a height ample to permit the passage of the largest vessels was secured.

The general form of the suspension bridge as planned was one of extreme simplicity, with the floor deck suspended throughout its length from simple cables or chains that later would pass over the two towers and be firmly anchored in rock or massive concrete blocks. These cables, which would have a comparatively small sag or flat catenary, would be either of steel wires or high-grade steel eyebars. Both of these types of construction have been carried on effectively in American-designed suspension bridges. For the towers, two essentially different types were designed, one of which was entirely of steel, somewhat similar to the type used in the Manhattan Bridge across the East River in New York City, and the other a combined steel and masonry tower of massive appearance, as shown in the accompanying illustration. The latter received the approval of the consulting architect, Cass Gilbert, and in view of the location and monumental character of the bridge, seemed likely to be adopted.

The plans as approved called for an initial



*Courtesy of the N. Y. Port Authority*

**THE PROPOSED HUDSON RIVER SUSPENSION BRIDGE**  
**FROM THE ARCHITECT'S DRAWING**





capacity of two 24-foot roadways which would accommodate four lanes of vehicular traffic, two in each direction. Two footwalks for pedestrians also were provided. These two roadways, it was estimated, would be sufficient to fill the demand of highway traffic for about ten years after the opening of the bridge. Later another four-lane roadway would be added and used for truck traffic, while the two initial roadways were reserved for passenger vehicles, the eight lanes together being ample to provide for all vehicular traffic which would desire to use this crossing. The highway traffic would be accommodated on the upper deck of the structure, while on the lower deck would be added two or four tracks for rail traffic, as might be found necessary. In addition to the suspension bridge proper and its engineering elements, the approaches were planned appropriate to the surroundings, that on the New York side crossing Riverside Drive with an accommodated arrangement of roadways of ramps, and a plaza of considerable size between Fort Washington Avenue and Broadway. On the New Jersey side the bridge would be approached through a cut spanned by a great arch and carrying a foot-walk along the top of the Palisades.

With the approval of the U. S. War Department duly granted, a \$20,000,000 issue of 4 per cent bonds made jointly by the State of New York and the State of New Jersey for the construction of this bridge by the Port of New York Authority, was sold, and it was stated that physical construction of the new bridge would begin in 1927, so that it could be opened to traffic in 1932. It would require five years additional to bring the bridge up to its maximum capacity.

**STATEN ISLAND-NEW JERSEY BRIDGES.** More modest than the proposed Hudson River Bridge were two bridges connecting Staten Island with New Jersey, which were put under way during the year by the Port Authority to span Arthur Kill. Both of these bridges were planned to accommodate highway traffic only, carrying on a single deck a four-lane vehicular roadway and two 5-foot sidewalks. These were to be toll bridges and at each end there would be plazas with space for toll booths. The first of these bridges, known as the Outerbridge Crossing, named after Eugene H. Outerbridge, who was for many years chairman of the Port Authority, extends from Francis Street in Perth Amboy, N. J., to about 1400 feet east of Arthur Kill Road in Tottenville, S. I., a total length of about 10,200 feet. Arthur Kill was to be crossed by a high-level cantilever bridge 1500 feet long, with a centre span of 750 feet and a clear height above water of 105 feet. The cantilever is flanked by two 300-foot truss spans. The steel trusses of the main river bridge were to be carried by arched concrete piers and the pier bases were to rest on timber piles. The approaches on either end were to consist of plate girder spans supported by arched concrete piers resting partly on timber piles, partly on reinforced concrete piles, and partly on spread footings. The estimated cost of this bridge was \$10,000,000.

The Elizabeth-Howland Hook Bridge, the second of the Arthur Kill crossings, extends from Edith Avenue, Elizabeth, to McKinley Avenue in Howland Hook. Arthur Kill is crossed by a high-level cantilever truss bridge 1152 feet long, with a centre span of 672 feet and a clear

height of 135 feet. The approaches consist of plate girder spans, all spans being supported by arched concrete piers, as is the case also in the Outerbridge Crossing. The cost of this bridge was estimated at approximately \$7,000,000. The designs and specifications for both bridges were prepared by Dr. J. A. L. Waddell, with Shortridge Hardesty as associate engineer in general charge. O. H. Ammann, the bridge engineer of the Port Authority, was in general charge of the engineering work, while Prof. William H. Burr, and Gen. George W. Goethals, in addition to Dr. Waddell, were acting as consulting engineers.

**DELAWARE RIVER BRIDGE.** The Delaware River Bridge between Philadelphia and Camden, which has been discussed in earlier issues of the *YEAR BOOK* (see *YEAR BOOK* for 1921, 1922, 1923, 1924, 1925), was formally opened on July 4. This was the world's largest suspension bridge and was operated as a toll bridge, being considered the largest public toll enterprise ever built. It was interesting to note that the bridge was completed for regular traffic three days earlier than the date promised in the engineer's preliminary report written a year before construction began, early in 1921. It has a clear span between pier headlines corresponding to a spacing of main piers of 1750 feet, and a gross height of 135 feet. The bridge had a six-lane roadway 57 feet wide, with space for four tracks for street cars or rapid transit tracks, and two 10-foot walks, the cables being spaced 89 feet apart. The actual cost of the bridge was \$36,300,000, which was 12 per cent greater in construction and 70 per cent greater in land than was originally estimated.

From the statistics derived from the early months of operation of the bridge, it was estimated that with the adopted toll rate of 25 cents per vehicle, the whole cost of the bridge would be retired in less than 15 years. In the four months, July 2 to Nov. 1, 1926, the toll collections amounted to \$806,427, the monthly figures being \$226,485; \$219,518; \$177,097; and \$183,326. About three-fourths of this income was derived from private passenger automobiles, from which a toll rate of 25 cents was received, while the remainder was truck and passenger bus traffic. An interesting descriptive summary of this bridge appeared in the *Engineering News-Record* for Sept. 30, 1926 (page 530) and Oct. 7, 1926 (page 578).

**NEWARK BAY RAILROAD BRIDGE.** On Nov. 28, 1926, the four-track bridge of the Central Railroad of New Jersey over Newark Bay between Bayonne and Elizabeth, N. J., described in the *YEAR BOOK* for 1925, was put into service. This bridge, which involved a cost of \$10,000,000, accommodated four tracks and consisted of an east approach viaduct, two sets of twin double track vertical lift spans 305 and 216½ feet in length, and 41 deck plate girder spans 124½ feet long, making a total length of 7411 feet. The entire project, involving the bridge, the approach, grade crossing elimination, and necessary changes in track alignment, brought the total cost of the operations to about \$15,000,000. The bridge was designed to replace the low level trestle crossing the Bay, and the new draw spans have an under-clearance of 35 feet at low water, and of 135 feet with the lift spans open.

**PITTSBURGH, PA., BRIDGES.** During the year rapid progress was made on the erection of the

three self-anchored suspension bridges across the Allegheny River at Pittsburgh referred to in the YEAR BOOK for 1924. The Seventh Street Bridge, the first of the group, was opened to traffic on June 17, and the Ninth Street Bridge, where steel erection began on March 1, had its span joined at the centre October 6, and was practically completed at the end of the year. The third, or Sixth Street Bridge, was to be erected in 1927. This group of bridges was of interest in that cantilever erection was used in the construction, so as to avoid false work in the channel, and each half was built as a cantilever with temporary diagonal struts between the chains and stiffening gear.

**SAN FRANCISCO BAY BRIDGE PROJECTS.** During the year a series of hearings on various projects to provide crossing for San Francisco Bay were held and brought out a number of projects and an elaborate discussion. The San Francisco Board of Supervisors voted on October 4 to employ "three bridge engineers of established reputation, not affiliated with any project asking a franchise, to study the problem of bridging the Bay and to make such investigations and compile such engineering data and information as may be essential to enable this Board and the people of San Francisco to determine the best type and location of a bridge to serve the interests of the community." The development of a satisfactory bridge crossing for San Francisco Bay was naturally an engineering project of first importance, and a franchise from the Supervisors was not merely sufficient in the matter, but the approval of the U. S. War Department had to be obtained, which, in action taken in 1921 and referred to in previous issues of the YEAR BOOK, was opposed to any high-level bridge to be constructed north of Hunter's Point.

It was thought during the hearings held in September and October of 1926 that the San Francisco Supervisors favored a bridge with provision for handling steam railroad traffic, while the city of Oakland wanted the East Bay Railroad Terminals left undisturbed. A vehicular bridge crossing the Bay, if adapted to accommodate steam railway operation, would involve an increased cost of some twenty-five millions of dollars. By the 1st of November some 19 different projects were placed before the Board for consideration, with applications for franchise. Various locations were suggested, as well as types of bridge which would vary in length and would have a clear height of from 135 feet to 200 feet above the water level. Up to the end of the year no definite decision had been reached in this important development, which was still a subject of considerable difference of opinion. Earlier in the year the U. S. Navy had expressed its official opposition to a bridge north of Hunter's Point because it would restrict ship and naval operations in San Francisco Bay, while during war the wrecking of such a structure by bombs or otherwise might bottle up naval forces and commercial shipping in the harbor, such shipping possibly including a full fleet. Likewise, if the fleet were at sea, it might become impossible for it to enter San Francisco Bay, so that the Navy would be deprived of a most essential Pacific Coast base. The matter was of further importance because San Francisco Bay and Puget Sound are the only protected bases on the

Pacific Coast which a fleet could use during war for refueling, refitting and operation.

**ST. PAUL AND MINNEAPOLIS BRIDGES.** During the year four concrete arch bridges were under construction in and near the cities of St. Paul and Minneapolis, Minn. These represented modern ideas in reinforced concrete construction, though there was considerable diversity in general design and capacity. The new structures included the Robert Street Bridge across the Mississippi River at St. Paul, the Inter-city Bridge, also across the Mississippi River, connecting Ford Avenue, St. Paul, and 46th Avenue, Minneapolis, the Cedar Street Bridge across the Mississippi River at Minneapolis, and the Fort Snelling-Mendota Bridge across the valley of the Minnesota River, carrying the State highway. Previously there had been built at Minneapolis the Cappelen Bridge at Franklin Avenue, with a 400-foot main arch flanked on either side by one of 199 feet and one of 55½ feet, with a total length between abutments of 1032 feet, and the Third Avenue Bridge with seven arches of 211-foot span and two of 134 feet.

**ROBERT STREET BRIDGE, ST. PAUL, MINN.** A notable structure at St. Paul, Minn., was opened for traffic Aug. 6, 1926, when the new Robert Street Bridge across the Mississippi River, built at a cost of \$1,800,000, came into use to replace the steel bridge built in 1881, but which was deficient in capacity. The new bridge was a reinforced concrete arch structure with a 56-foot clear roadway and two 10-foot sidewalks, the bridge being the full width of the street, as against 32 feet between curbs and two sidewalks 8½ feet wide of the old bridge which was replaced. The engineering and architectural design of the new structure presented many interesting features, particularly as it consisted of a 264-foot channel span which was flanked by approach spans where the location of nearly every pier was determined by existing structures and railroad property. Also, the two ends of the bridge were conditioned by the existing grades of the street, while the government required a clearance of 47 feet above ordinary high water. The total length of the bridge, including approaches, was approximately 1900 feet, and the structure included at the north end a reinforced concrete trestle with three spans of varying length, 89 feet in the aggregate, a skew steel-deck girder span of about 53 feet, three flat-barrel arches with a combined length of about 291 feet, a two-rib arch span of 264 feet centre to centre of piers crossing the main channel, and four five-rib arch spans totaling 514 feet, with a 311-foot concrete trestle on concrete piles with eight spans, and finally 260 feet of earth fill between buildings, and concrete retaining walls. The chief feature of interest was the 264-foot through-arch span, which was 244 feet in the clear between piers. This was required as the government demanded 62 feet headroom above low water for a skew channel width of 160 feet, or 180 feet along the bridge.

*Inter-city Bridge, St. Paul-Minneapolis.* The Inter-city Bridge had five arches of the rib type, three of 300-foot and two of 139-foot span. It was 1516 feet between abutments and had a width of 63 feet. The roadway was 100 feet above water and its estimated cost was \$1,322,984.

*Cedar Street Bridge, Minneapolis.* This bridge had been designed with seven arch spans of the

two-rib type, two with clear spans of 205½ feet and five of 93 feet. The total length of the river portion of the bridge between abutments was 1146 feet, while the concrete viaduct approaches would make the total length 2921 feet. The roadway was 112 feet above water and the width between parapets was 56 feet. The estimated cost of this bridge was \$1,076,000.

**Fort Snelling-Mendota Bridge.** A long concrete arch bridge carrying a State Highway across the valley of the Minnesota River between Fort Snelling and Mendota, Minn., was nearing completion at the end of the year at an estimated cost of \$1,870,000. See YEAR BOOK for 1924. This bridge consisted of 13 open spandrel two-rib arches 304 feet centre to centre, each with a clear span of 283 feet 4 inches, with a short slab approach affording a total length of 4119 feet. The roadway was 120 feet above water, while the foundations extended to solid rock an average depth of about 80 feet below ground level.

**GALLIPOLIS SUSPENSION BRIDGE, OHIO RIVER.** Late in the year the Gallia County Ohio River Bridge Company started work on a suspension bridge with a 700-foot span between Kanauga, a suburb of Gallipolis, Ohio, and Point Pleasant, West Virginia, forming a link in the direct route between Columbus, Ohio and Charleston, West Virginia. The project was to have a paved roadway 28 feet in width and also one 4-foot sidewalk.

**DULUTH-SUPERIOR TOLL BRIDGE.** The need of improved highway communication on various routes throughout the United States was again emphasized in the Duluth-Superior Toll Bridge between the cities of Duluth, Minn., and Superior, Wis., which was under construction during the year. This interstate bridge was being built for the Arrowhead Bridge Company and involved a structure with approaches 3000 feet in length, of which 2000 feet were timber piles. There was a movable span with a double-leaf deck bascule of the Scherzer rolling-lift type which afforded a clear channel width of 227 feet. The span between the end bearings was 240 feet and the over-all length of the structure was 294 feet. This lift-span provided a 24-foot roadway and one 4-foot sidewalk. It was operated by two 25 h.p. motors for each lift, capable of raising the parts in 1½ minutes against the maximum resistance. An emergency equipment consisting of a 75 h.p. gasoline motor direct-connected to a generator was supplied in case of failure of current.

**ILLINOIS RIVER BRIDGE AT FLORENCE.** During the year the Illinois State Division of Highways, after a competition among four designers for double bridges, adopted a design calling for a vertical lift bridge of the Strauss type. In this arrangement the operation of the span is effected by a rack and pinion at each end and counterweights attached to cables leading over sheaves on top of the steel towers. This movable span is of the through-truss type, 215 feet from centre to centre of end spans. On either side there were four fixed spans of the same type and length, total length between abutments being 1950 feet. For the middle spans the clear headroom was 8½ feet at high water and 28½ feet at low water, the former reducing to 7 feet at the abutments. The lift span provides a clear channel width of 206½ feet and a headroom of 65 feet above high water level when

raised. The bridge is carried by concrete piers and will have a reinforced concrete floor 24 feet wide.

**NEW ORLEANS BRIDGE.** During the year contract drawings were prepared for the proposed Mississippi River crossing about 6 miles north of New Orleans. The general layout of this bridge received the approval of the U. S. War Department in June, 1925, and the bridge, as outlined, was to consist of a central span 790 feet, two anchor arms each 530 feet, and two flanking spans at each side 532 and 333 feet respectively centre to centre of piers, making a total length of main bridge of 3580 feet. A clearance of 130 feet above the main Gulf level was required. The approaches were to be approximately 1¾ miles long on each side of the river, and the bridge was to carry a double track railway and two 18-foot roadways on cantilever brackets outside of the trusses. The work was under the auspices of the Public Belt Railroad Commission of New Orleans, and was under the supervision of Ralph Modjeski, chief engineer, and a board of advisory engineers consisting of Daniel E. Moran and Howard C. Baird of New York City and A. F. Barclay of New Orleans.

**LAKE PONTCHARTRAIN BRIDGE, NEW ORLEANS.** An important work involving 5 miles of reinforced concrete trestle and two bascule spans formed the subject of a contract awarded during the year for the toll highway bridge over Lake Pontchartrain, near New Orleans, La. The bridge and its approaches were designed with a total length of about 15 miles, forming a link in the highway system, so that the bridge would cross the lake at its narrows from Pointe aux Herbes to near Slidell, being parallel to and about one-half mile east of the timber trestle crossing of the Southern Railway. A 20-foot roadway would be carried on a concrete trestle of 35-foot spans and there would be two double lift bascule draw spans over the ship channel. This new project would give New Orleans a direct highway exit to the East without recourse to ferries. Whether a bridge over Lake Pontchartrain should be free or a privately owned toll bridge was, during the year, a subject of controversy.

**PORTLAND, OREGON.** The tendency of modern bridge construction in the United States was shown in the replacement of the steel viaduct on Vista Avenue, over Jefferson Street Canyon, at Portland, Ore., which was built in 1905, by a reinforced concrete arch bridge with a span of 248 feet. This replacement was necessary not only on account of the 33-foot roadway of the old viaduct being too narrow to handle the traffic, but on account of the noise of the timber deck and plank roadway. The new construction was effected without diverting the street car line from the older viaduct, although vehicular traffic was routed over other streets. The arch span of the new bridge had a rise of 50 feet above the spring line, and a deck width of 52 feet provided for a 38-foot roadway with two 6-foot sidewalks. There was no exposed steel on the bridge, and bronze was used for trolley poles and lighting standards.

The Ross Avenue Bridge across the Willamette River at Portland, Ore., was nearing completion at the end of the year. This was a steel arch bridge where a central steel span 535 feet in length was flanked on either side by a 321-

foot span continuous with the arch over the main piers. An interesting feature of this construction was the closure of the central steel arch without the use of jacks, the movement of 2½ inches at the crown being made by taking advantage of the daily temperature changes. The erection of this bridge was effected by cantilevering out from both approaches, as falsework was impossible on account of the necessity of leaving a clear channel.

**UNITED STATES BRIDGES LISTED.** During the year the Corps of Engineers, U. S. Army, published a list of bridges over the navigable waters of the United States, in which more than 5000 bridges were included. With each bridge was given the name of the river, distance of the bridge from the mouth of the river, the owner, kind and number of spans, clearance through channel spans, date the structure was approved by the Federal Government, date of completion, purpose for which the bridge was used, and the time during which the drawbridges will remain closed. A limited number of copies were prepared, to serve as the basis of a general edition after the work had been checked.

**LONDON BRIDGES.** The Royal Commission on Cross-River Traffic in London presented a report dated November 30, which contained a comprehensive survey of the question of cross-river communication in London, dealing with the construction of new bridges, the demolition of obsolete or obsolescent structures, and the rebuilding of such as were capable of improvement. The Commission recommended that Waterloo Bridge should not be demolished, but that four piers and the arches supported by them should be rebuilt and the foundations of the remainder supplied with new underpinning. The roadway of the bridge should be widened to 35 feet, without diminishing the present width of the footwalks. The Commission also recommended that the project for a new St. Paul's Bridge should be abandoned in favor of a new high level road bridge between Southwark Street and Holborn Viaduct, with a north and south road from Aldersgate Street to Southwark Street. A double deck steel bridge with space for six railway tracks on the lower or present level, with a 60-foot roadway above, and two footwalks of 15 feet each, was recommended for construction alongside and to the east of the present Hungerford Railway Bridge, and a new Charing Cross station should be constructed on a site bounded on the east by Buckingham Street. When the bridge and new station were ready for use the railway tracks should be switched over to them and the old bridge and station demolished, so that the site of the latter could be used for a new hotel or any other desirable development.

A recommendation was made for a new Thames tunnel from Dartford to Purfleet, a Victoria Dock road scheme, and reconstruction and improvement work on the up-river bridges. The report discussed the various bridges and their approaches and recommended their improvement and rebuilding in order to give increased capacity. The Commission recommended the establishment of a central authority for bridges and cross-river traffic, and the programme of the various improvements recommended was estimated to involve a net expenditure of £25,000,000, of which the greater part of the annual charge would fall upon the road fund and the

balance on local authorities in the London traffic area. This report was of interest as the problems of London are similar to those of other cities and the recommendations involved increasing the capacity of bridges or the construction of new bridges, rather than an extensive scheme of tunnels, but a single tunnel figuring in the complete project. The report met with a favorable reception in England, and as it was in the nature of a compromise and presented a coördinated scheme it seemed to indicate that the period of controversy had passed and that active measures could be put under way to deal with the congestion.

During the year a notable four-span reinforced concrete bridge was being constructed at Berwick across the River Tweed. This bridge was notable not only for its own design, but also because it was located between an old picturesque bridge and Stephenson's Viaduct, which for many years had been a landmark in British engineering.

**BRIGGS, EDWARD CORNELIUS.** American dentist and educator, died at Brookline, Mass., November 6. He was born at Lawrence, Mass., Sept. 6, 1856, and graduated from Harvard and Harvard Dental School in 1878, and from the School of Medicine in 1880. From 1878 he practiced dentistry in Boston and in 1880 became connected with the Harvard Dental School, being promoted through various grades to that of professor in 1895, in which capacity he served until 1915 when he became professor emeritus. He was the author of various papers on odontology and stomatology, and was a member of the American Academy of Dental Science, a member and president of the Harvard Odontological Society, of the Harvard Dental Alumni Association, and fellow of the Massachusetts Medical Society, and a member of other medical and scientific bodies.

**BRIGHAM, WILLIAM TUFTS.** American Anthropologist, died in Honolulu, January 30. He was born at Boston, Mass., May 24, 1841, and after graduating from Harvard in 1862 explored the Hawaiian Islands studying botany and geology. He was admitted to the Massachusetts bar in 1867, and in the following year became instructor in botany in Harvard College, serving until 1869. He was a member of the Boston School Board and inaugurated the system of art instruction in the public schools. He also inaugurated the Sargent method of anthropometry, which came into general use in the colleges. In 1888 he became director of the Bishop Museum of Ethnology in Honolulu, serving until 1918 when he was made curator of anthropology. In 1905 he received the honorary degree of Doctor of Science from Columbia University. In addition to being a member of many American learned societies Brigham was honorary fellow of the Royal Anthropological Institute of Great Britain and Ireland, and a member of the Imperial Academy of Sciences of St. Petersburg, and the American Academy of Arts and Sciences. His explorations and writings covered a wide range and included: *Cost Catalogue of Antique Sculpture* (1874); *Guatemala, the Land of the Quetzal* (1887); *Volcanic Manifestations in New England*; *Hawaiian Feather-work* (1899); *Index to the Islands of the Pacific Ocean*; *Stone Implements of Ancient Hawaiians*; *Mats and Baskets of the Hawaiians* (1906); *Ancient Hawaiian House* (1908); *His-*

*tory of Kilauea and Mauna Loa Hawaiian Volcanoes; Ka Hana Kapa (Bark-cloth Making) (1911); A Journey Around the World to Study Museums (1912); Feather-work, Supplement (1917.)*

**BRIGHAM YOUNG UNIVERSITY.** An institution of higher education at Provo, Utah; founded in 1875, and maintained under the auspices of the Church of Latter Day Saints. It comprises colleges of arts and sciences, education, commerce and business administration, applied science, fine arts, and the extension division. The enrollment for 1926-27 was about 1400. President, Franklin Stewart Harris, Ph.D.

**BRIGHT, JAMES WILSON.** American philologist and educator, died at Baltimore, Md., November 29. He was born at Aaronsburg, Pa., Oct. 2, 1852, and after graduating from Lafayette College in 1877 and pursuing further studies became a fellow at Johns Hopkins University in 1880, taking his Ph.D. there in 1882. He was made associate professor of English philology in Johns Hopkins in 1891, and from 1893-1905 was professor, in the latter year becoming Caroline Donovan professor of English literature. He received the degree of Litt.D. from Lafayette College in 1907, and in the same year that of LL.D. from Lake Forest. He was an active scholar, being editor-in-chief of *Modern Language Notes*, and honorary secretary for America (South and West) of the Early English Text Society, and of the Chaucer Society of London. He was a member of the Advisory board of Modern Philology, serving as its secretary from 1893-1901, and its president 1902-03. For 10 years he was a member of the Modern Language Association of America, and a member of the Simplified Spelling Board until 1918. He was vice president of the Simplified Spelling Society of London, and editor-in-chief of the Albion series of *Anglo-Saxon and Middle English Poetry*. He was the editor of *Hesperia* (Supplementary Series), and the author of many texts and reprints in Anglo-Saxon. He also wrote *Elements of English Versification* (1910).

**BRINDELL, ROBERT P.** Building trades organizer convicted of extortion in 1921, died in New York City, December 31. He was born in Quebec, Canada, in 1879, and after working in a drug store in Providence became a watchman and dock laborer in New York City. He organized the dock and pier workers and was able to secure several wage increases for these men who paid him a large fee and elected him leader for life, being at the time the highest paid labor executive. In 1919, Brindell formed the Building Trades Council, the object of which was to present a united front to contractors so that they would not have to make separate agreements with each individual craft and its representatives. At one time he was an influential figure at the American Federation of Labor conventions, but the Building Trades Council was suspended when Brindell organized a so-called "dual" union of painters in addition to the recognized union previously existing. At the time of the investigation of the housing situation in the City of New York various enterprises testified to paying Brindell sums of money for strike insurance or to facilitate contracts and permit of convenient operation. Brindell was convicted on the charge of extorting \$2000 from a builder and was sentenced to Sing Sing Prison where it was alleged he re-

ceived unusual privileges leading to his transfer to Dannemora Prison and then later to Great Meadow Prison from which he was released on parole on Dec. 26, 1924. On his return to New York it was charged that he was attempting to regain his power in the New York building trade and the Parole Board listened to testimony to that effect, but Brindell was exonerated. His death came as the result of illness contracted after his release from prison.

**BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.** An association founded in 1831, when it first met at York, England, composed of 13 sections, representing all branches of pure and applied science, with a membership of representative British scientific men and women. The annual meeting in 1926, held at Oxford, August 4-11, included full programmes of proceedings for each of the Society's component sections. The President for the Oxford Meeting, H. R. H. the Prince of Wales, K.G., F.R.S., dealt in his address with the relations between the State, the community, and scientific research. The address was given in the Sheldonian Theatre of the University to an audience which included many of the most eminent representatives of science among Americans and Europeans. Owing to the large attendance of members at the meeting, over 3700 in all, the address was relayed to two other halls in Oxford, and it was also broadcast throughout the country. Important presidential addresses were as follows: Physics and Mathematics, Prof. A. Fowler spoke on "The Analysis of Line Spectra"; Chemistry, Prof. J. F. Thorpe, on "The Scope of Organic Chemistry"; Geology, Prof. S. H. Reynolds, on "Progress in the Study of the Lower Carboniferous (Avonian) Rocks"; Zoölogy, Prof. J. Graham Kerr, on "Biology and the Training of the Citizen"; Geography, Hon. W. Ormsby-Gore, on "The Economic Development of Tropical Africa and its Effect on the Native Population"; Economics, Sir Josiah Stamp, on "Inheritance as an Economic Factor"; Engineering, Sir John F. C. Snell, on "Electricity Supply"; Anthropology, Prof. H. J. Fleure, on "The Regional Balance of Racial Evolution"; Physiology, Prof. J. B. Leathes, on "Function and Design"; Psychology, James Drever, on "Psychological Aspects of our Penal System"; Botany, Prof. F. O. Bower, on "1860-1894-1926"; Educational Science, Sir Thomas H. Holland; Agriculture, Sir Daniel Hall, on "The Relation between Cultivated Area and Population." In November announcement was made of a donation of £10,000 to the British Association for the Advancement of Science by Sir Alfred Yarrow, who made it a condition that his gift should be expended, both capital and interest, for the development of science within a period of twenty years. This gift followed a donation of the same amount made several years previously by Sir Charles Parsons. Officers elected in 1926 were: President, Prof. Sir Arthur Keith, F.R.S.; General Secretaries, Prof. J. L. Myres, O.B.E., F.S.A.; F. E. Smith, C.B., F.R.S.; General Treasurer, Dr. E. H. Griffiths, F.R.S.; Secretary, O. J. R. Howarth, O.B.E. It was decided to hold the 1927 meeting at Leeds.

**BRITISH COLUMBIA.** A Canadian province on the Pacific Ocean, lying between Alaska and Alberta. Area, 355,855 square miles; population, according to the census of 1921, 524,582

as compared with 392,480 in 1911. The principal cities and their populations in 1921; Victoria, the capital, 38,727; Vancouver, 117,217; New Westminster, 14,495. The movement of population in 1924 was: Births, 11,252; deaths, 4823; marriages, 3945. There is a complete system of free and non-sectarian education, ranging from primary to collegiate instruction. The area of the timberland of British Columbia is estimated at more than 100,000,000 acres, containing roughly 400,000,000 feet of merchantable timber. The mineral resources are abundant. The value of the mine products in 1925 was placed at \$66,526,074 by the United States Bureau of Foreign and Domestic Commerce. This represented an increase of almost \$18,000,000 over the 1924 value of \$48,704,604. The principal minerals are coal, copper, lead, gold, and silver. For figures pertaining to agriculture and manufacturing see CANADA.

The 1924-25 budget figures show a revenue of \$19,381,511 and expenditures of \$21,227,916. The government is under a lieutenant-governor and a legislative assembly of 48 members elected for five years. The province is represented in the Canadian legislature by six members in the Senate and 14 members in the House of Commons. Lieutenant-governor at the beginning of 1926, Robert R. Bruce; Prime Minister, John Oliver.

**BRITISH EAST AFRICA.** A British possession covering a large area of Africa, and comprising KENYA COLONY, UGANDA PROTECTORATE, and ZANZIBAR. See these articles.

**BRITISH GUIANA,** gē-ū'nā. A British colony on the northeastern coast of South America, including the settlements of Berbice, Demerara, and Essequibo; bounded on the north by the Atlantic Ocean, on the east by Dutch Guiana, on the south by Brazil, and on the west by Venezuela. Area, 89,480 square miles; population, according to the census of 1921, 297,691, excluding about 9700 aborigines in the remoter districts; population in 1911, 296,000. An official estimate of the population in 1924 placed it at 301,294. In the same year the movement of population was: Births, 9755; deaths, 7717. The capital is Georgetown, with a population of 58,822. The chief pursuit is agriculture and the principal products are sugar, rice, and coconuts. Stock raising is of some importance. The number of cattle in 1924 was 113,315; horses, 1800; sheep, 16,000; and goats, 9800. The mineral resources are considerable, gold, rough diamonds, and bauxite being found in large quantities. The principal exports are sugar, rough diamonds, rice, timber, and rum; and the chief imports are flour, fertilizers, machinery and hardware, and textiles. Statistics on revenue, expenditure, and trade for 1923 and 1924 are:

	1923	1924
	£	£
Revenue .....	1,114,704	1,056,288
Expenditures .....	1,081,549	1,065,457
Imports .....	2,668,961	2,744,145
Exports .....	3,757,647	3,393,529

In 1924, 3110 vessels with a total tonnage of 1,183,562 entered and cleared from the ports of British Guiana. Practically all the vessels were British and Dutch. There are 97½ miles of railroads. The colony is administered by a gover-

nor, assisted by a court of policy, consisting of seven official members and eight elected members, and a combined court, containing, in addition to the above, six financial members elected by the registered voters. Governor in 1926, Sir Cecil Hunter Rodwell.

**BRITISH HONDURAS,** hūn-dō'rās. A British crown colony on the Caribbean coast of Central America, east of Guatemala, and 700 miles west of Jamaica. Area, 8598 square miles; population, according to the census of 1921, 45,317; estimated, Dec. 31, 1924, 47,132. The movement of population in 1924 was: Birth rate, 38.38 per thousand; death rate, 25.54 per thousand; marriages, 391. In 1924 there were 66 primary schools with an enrollment of 6827. The chief pursuits are agriculture and forestry although only a small part of the land is cultivated. In the higher lands good pasturage is to be found. The following table supplied by the United States Bureau of Foreign and Domestic Commerce gives the available data on the import and export trade of British Honduras, 1918 to 1924:

VALUE OF BRITISH HONDURAS TRADE  
[In thousands of dollars United States currency]

Year	Value of imports	Value of exports	Total trade
1918 .....	\$3,565	\$3,669	\$7,234
1919 .....	4,695	4,449	9,144
1920 .....	5,876	5,046	10,922
1921 .....	3,344	3,045	6,389
1922 .....	3,290	2,818	6,108
1923 .....	4,037	3,197	7,234
1924 .....	3,894	3,338	7,232

The chief exports in 1925 were bananas, mahogany, cedar, and other forest products, plantains, coconuts, and chicle. The chief imports were clothing, cotton and silk goods, milk, flour, machinery and hardware. In that year as in previous years the United States led all other countries in respect both to imports and exports. The revenue in 1924-25 was £193,204 and the expenditures, £185,391. The public debt in the same year was £153,443. The tonnage entered in 1924 was 305,350 tons. The administration is under a governor assisted by an executive council of six members and a legislative council of five official and seven unofficial members. Governor and Commander-in-Chief in 1926, Maj. J. A. Burdon.

**BRITISH INDIA.** See INDIA, BRITISH.

**BRITISH NEW GUINEA.** See PAPUA.

**BRITISH NORTH BORNEO.** A British colony, comprising the northern part of the island of Borneo. Area, about 31,106 square miles; population, at the census of 1921, 257,804, most of whom were Mohammedan settlers in the coast regions and aborigines in the interior, the Europeans numbering only 533. The most numerous tribes were the Dusuns (112,287), Muruts (37,447), and the Bajaus (33,070). The chief towns are Sandakan, with a population of 11,936 on the east coast and Jesselton, on the west coast.

Only a small part of the soil is arable. The principal products are: Timber, coconuts, rye, sago, gum, coffee, fruits, spices, gutta-percha, camphor, rattans and other forest products, and tobacco. Coal, iron, gold, and mineral oils are also to be found to some extent. The trade is chiefly carried on with Great Britain almost entirely through the ports of Hong Kong and

Singapore. There is a railway 127 miles long running from Jesselton to Melalap, with a branch to Brunei Bay. Statistics of finance and trade for 1923 and 1924 were:

	1923	1924
	£	£
Revenue .....	357,404	371,007
Expenditure .....	344,779	275,601
Imports .....	770,987	827,862
Exports .....	1,213,485	1,301,715

The shipping entering in 1924 was 347,960 tons. The territory is under the jurisdiction of the British North Borneo Company, and the administrative functions are exercised by a governor in Borneo and a board of directors in London. Mr. Aylmer C. Pearson, who was the governor of North Borneo at the beginning of 1926, died on March 15 of that year.

**BRITISH SOMALILAND.** See SOMALILAND, BRITISH.

**BRITISH SOUTH AFRICA.** See SOUTH AFRICA, BRITISH.

**BRITISH WEST AFRICA.** The general name given to the following British colonies in West Africa; Nigeria (colony and protectorate); Gold Coast (comprising the Gold Coast colony, Ashanti, and the Northern Territories); Sierra Leone (colony and protectorate). See separate articles.

**BROADWAY, NEW YORK CITY, CELEBRATION.** See CELEBRATIONS.

**BROMINE.** See CHEMISTRY, INDUSTRIAL.

**BROOKE, JOHN RUTTER.** American soldier, died at Philadelphia, Pa., September 5. He was born in Pottsville, Pa. in 1838, and in 1861, entered the Union Army as a captain of Pennsylvania volunteers, rising through successive grades until he reached the rank of colonel, and at the close of the war was commissioned brigadier general of volunteers. He was breveted major general of volunteers for service during the Battles of the Wilderness. Resigning from the volunteer service in 1866 he became lieutenant colonel in the regular army and, in 1879 was commissioned colonel, being appointed brigadier general in 1888, when he commanded the Department of Dakota with headquarters at St. Paul, Minn. In 1897 he was made major general and in the following year, during the Spanish-American War he was sent to Porto Rico where he served on the commission to arrange for its evacuation by the Spanish troops. In October he was appointed military governor and commanding general of the department, and from December, 1898 to December, 1899 he was military governor of Cuba, and commanding general of the Division of Cuba. From 1900-02, when he retired, he commanded the Department of the East.

**BROOKLYN INSTITUTE OF ARTS AND SCIENCES.** An institution at Brooklyn, N. Y. founded in 1824, composed of three divisions, Education, Museums, and a Botanic Garden. It was incorporated in its present form in 1890. Membership is open to all who are interested in any branch of science or art. The Institute is divided into several departments, each of which is composed of members interested in its particular field. These departments conduct educational courses and give addresses, lectures, and concerts. Among the various departments are: agriculture, fine arts and architecture, astronomy, botany, dramatic art, electricity,

engineering, home economics, music, pedagogy, philology, photography, physics, psychology, French language and literature. The School of Pedagogy had an enrollment of 1500 students in 1926. A forum conducted by the departments of Political Science and Sociology, provides for the discussion of current problems. The Museum contains collections in the fields of art, ethnology, and natural science. Its library contains over 26,000 volumes. Fifty acres are devoted to the Botanic Garden. In 1926 the Institute's permanent funds totaled \$2,033,237, and those to meet current expenses, \$624,782.20. Attendance at lectures and concerts was 283,028; that at all activities of the institute 970,041. The president of the Board of Trustees was Frank L. Babbott. Charles D. Atkins was director of the Department of Education, William Henry Fox of the Museum of Arts and Sciences, and C. Stuart Gager of the Botanic Garden. Headquarters are at the Brooklyn Academy of Music, 30 Lafayette Avenue, Brooklyn, N. Y.

**BROWN, SIR JOHN MACLEAVY.** Former oriental administrator and scholar, died in London April 6. He was born at Magheragall, County Antrim, Ireland, November 27, 1842, and was educated at the Belfast Academy, and Trinity College, Dublin. On July 18, 1861, after a competitive examination, he was appointed a student interpreter in China and in 1864 became assistant Chinese secretary to the British Legation at Peking to which he had been attached. He was in charge of the Legation in 1867 and, in 1868 became secretary of the mission headed by Anson Burlingame, an American, appointed by Prince Kung of the Chinese Government to represent China abroad. After the death of Mr. Burlingame in 1870 at St. Petersburg the mission was broken up, and Brown returned as acting Chinese secretary in Peking. He resigned in May, 1872 to enter the Chinese Customs service, where he made for himself a notable record, soon being promoted to be Commissioner of Customs. In 1898 he was appointed head of the Customs and soon afterwards Controller of Finance in Korea at the time when China, Japan and Russia were engaged in a bitter struggle for predominance. Brown was able to organize the finances, and attracted foreign trade by building lighthouses, making surveys, and suppressing smuggling, as well as improving sanitary conditions. His work here secured the support of the British and Japanese Governments. In 1903 Russia, through the agency of Admiral Alexieff, its representative, procured Brown's dismissal from the Korean Emperor. However, with the support of the other two nations it was ignored and later withdrawn. Brown was a great influence in holding Korea together at this time of struggle and, after the Korean Emperor, Yi Hyeung placed the foreign relations of his country in the hands of Japan, Brown resigned in 1906. He was later made counselor of the Chinese Legation in London, having been called to the English bar by the Inner Temple in June, 1882. He was made a Companion of St. Michael and St. George in 1898, and knighted in June, 1906. He received high Chinese, Japanese, and Korean decorations including that of the first-class Sacred Treasure of Japan and first-class Order of Tai-Kuk, Korea. He was said to be the last survivor of the Burlingame Mission of 1868-70, an important movement in Chinese diplomacy.



**BROWNING, JOHN M.** American inventor of automatic firearms, died at Herstals, near Liège, Belgium, November 26. He was born at Ogden, Utah, Jan. 21, 1855, the son of a gunsmith, and at the age of 13 made his first gun of scrap iron in his father's gunshop. In 1879 he patented a breechloading rifle, and in 1884 a repeating rifle, following it in 1895 with a box magazine. His automatic pistol was adopted by the United States Government in 1908, and his machine gun and machine rifle in 1918, being used extensively in the World War. In particular two of his weapons, the automatic rifle and the automatic machine gun, water cooled and mounted on a tripod, were extensively used, the latter also as an aircraft gun. It is interesting to note that no design of Browning's ever proved a failure, nor was any model produced by him discontinued. He was constantly endeavoring to solve problems for the United States Army Ordnance Department and many types of weapons adopted by that body were due to his genius. The manufacturing rights for many of his weapons were secured by the leading arms companies in the United States. At the time of his death Mr. Browning was in Belgium perfecting a double barrelled shotgun where one barrel was placed above the other. He had received the decoration of the Order of Leopold of Belgium and after his death his body lay in state in the grand hall of Belgium's National Arms Works. His remains were brought to the United States where they were received with military honors and forwarded to his home at Ogden, Utah.

**BROWN-TAIL MOTH.** See ENTOMOLOGY, ECONOMIC.

**BROWN UNIVERSITY.** An institution of higher education at Providence, R. I.; founded in 1764. In the autumn of 1926 the enrollment was 2094, of whom 242 were graduate students; 1301 undergraduate men; 452 in the Women's College; 99 in the School of Education. The faculty numbered 132, 51 new appointments having been made in 1926. The permanent productive funds of the University amounted to \$3,570,380.26, and the temporary funds to \$813,904.72. The University's receipts for the year from all sources were \$2,034,974.70. The library contained 350,000 volumes. During the year the University charter was amended, removing the Baptist denominational requirement for President and adding six undenominational trustees, the charter having originally called for 22 Baptist trustees and 14 of other denominations. Entrance requirements were changed to require more algebra. New offices created were: student counselor and director of religious activities, to which O. T. Gilmore was appointed; athletic coach as a member of the faculty, such appointment having been made for the first time for the entire year; athletic council, to have full control of all athletic sports. The endowment and building funds were increased by \$1,000,000, one-half being given by two brothers contingent upon an additional \$500,000 from graduates and friends. A bequest of \$5000, as well as several smaller bequests, was received for the founding of scholarships. A U. S. Government Post Office was established on the campus and housed in a small building previously erected. New buildings were: Littlefield Hall and Hegeman Hall, dormitories; Marston Hall of Modern Languages; and Alumnae Hall, for social purposes,

at the Women's College. President, William Herbert Perry Faunce, D.D., LL.D.

**BRUNEI, brōo-nī'.** A British region on the northwestern coast of the island of Borneo. Area, about 2500 square miles; population, according to the census of 1921, 25,444, of whom the Europeans numbered only 35, the bulk of the population being made up of Malays and native Borneans. Brunei is the chief town with a population of about 10,000. Among the principal products may be mentioned mangrove extract, rubber, coal, sago, and jelutong. Cloth-weaving, silverware, brass-founding, and boat building are found among the native industries. In 1924 the chief exports were cutch, coal, rubber, jelutong, and forest products; the chief imports, rice, tobacco, kerosene oil, piece goods and sugar. The revenue in 1924 was £32,372; expenditure, £28,885; public debt, Dec. 31, 1924, £50,808. The administration is in the hands of a British Resident, the sultan retaining the name only and with his two principal ministers receiving a subsidy from the British government. Sultan at the beginning of 1926, Ahmed Tajudin Akhazul Khairi Wad-din, a minor, who succeeded his father in September, 1924. British Resident, E. E. F. Pretty.

**BRUSILOFF, brōo'sloff, ALEXEI ALEXEIVITCH.** Russian general, died in Moscow, March 17. He was born at Kutais in the Russian Caucasus in 1853, coming from a family distinguished in Russian military and political life. Educated for the Russian army he served in the Caucasus and distinguished himself in the Russo-Turkish War of 1877-78. In 1910 he had risen to the rank of corps commander and in 1911 had the command of the army corps stationed at Vinnitsa (Russian Podolia) and its military district, which bordered on East Galicia and hence was considered the most important military area within the Kieff command.

With the outbreak of the World War Brusiloff was chosen to lead the army invading Galicia, and in command of the eighth army he fought the battles of the Carpathians and made raids into Hungary. He retired as a result of the disaster overtaking the adjoining third army on the Dunajetz, but, while retreating, he captured a large number of prisoners, and in September, 1915 made a brilliant counter-attack in Volhynia which gave the Russians for a time command of Lutsk and permanently secured for them Rovno. In April, 1916, General Brusiloff succeeded General Ivanoff in command of the Russian armies south of the Pripet marshes with a total strength estimated by the Germans of 41 infantry divisions and 14 cavalry divisions. The offensive Brusiloff was able to undertake was remarkably successful, and in November he even believed the war to be won. In the following year Brusiloff was appointed to the supreme command after the Coalition Cabinet had been formed by Prince Lvoff with Kerensky as Minister of War and Marine. After a few successes the Russian army failed in the movement attempted against the Germans and the Austro-Hungarians, marking the end of Russia's participation with the Allies. It was stated that Brusiloff accepted the Bolshevik régime, and the statement often was made, though in error, that he commanded the Red armies during the wars of 1919-20. He was reported to have worked in establishing a military system for Russia, but from 1924 on he lived in seclusion.



**BRYN MAWR COLLEGE.** An institution for the higher education of women at Bryn Mawr, Pa.; founded in 1880. The enrollment for the autumn of 1926 totaled 482, of whom 384 were undergraduates, distributed as follows: 81 seniors, 86 juniors, 85 sophomores, and 129 freshmen, 3 hearers, 18 resident fellows, and 80 graduate students. The teaching staff numbered 67. The productive funds of the college amounted to \$6,400,000, and the income for the year to \$963,459. The number of volumes in the library was 112,136. President, Marion Edwards Park, Ph.D., LL.D.

**BUBONIC PLAGUE.** The Health Organization of the League of Nations at Geneva has recently issued a large quarto volume which gives a summary of the statistics of notifiable diseases during 1925 in 33 European, 34 African, 24 American and 23 Asiatic countries with Australia. The data are naturally of varying merit and accuracy. The report deals at some length with the prevalence, rise and decline of plague all over the world. An agreement has been in operation for many years by which any plague-infected port is notified to everybody, so that ships coming from there may be treated with due respect. Every continent except Australia is more or less infected, from California to Celebes and from the Black Sea to the Cape and Brazil. However, serious epidemics in 1925 were limited to Nigeria, Kenya, Uganda, Madagascar, India and Java, and the whole consideration will make the reader wonder what is to be the progress and termination of the pandemic which started out of southern China 32 years ago. The volume is illustrated with instructive maps. It is discussed in the *Lancet* (London), September 18, 1926, page 612.

**BUCKNELL UNIVERSITY.** A coeducational Baptist institution of liberal arts; founded in 1846 under the name of the University of Lewisburg, but renamed in 1886 in honor of its benefactor, William Bucknell. In the autumn of 1926 the enrollment was 1046, of whom 651 were men and 395 were women, and for the summer school of 1926 the total registration was 310, 167 men and 143 women. The faculty had 68 members. The productive funds amounted to \$1,150,000, and the income for the year to \$509,250. A campaign for increased endowment was completed during the year. The library contained 50,000 volumes. President, Emory W. Hunt, D.D., LL.D.

**BUCKWHEAT.** The United States, as estimated by the department of Agriculture, produced 12,922,000 bushels of buckwheat on 707,000 acres or at the rate of 18.3 bushels per acre. In 1925 the production was 13,994,000 bushels on 747,000 acres or at the rate of 18.7 bushels per acre. The average farm price on December 1, 1926, was 88.3 cents and on December 1, 1925, 88.8 cents per bushel. Among the twenty-three States reporting buckwheat production the leading States and their yields were as follows: New York 3,837,000 bushels, Pennsylvania 3,610,000 bushels, Minnesota 1,122,000 bushels, Michigan 765,000 bushels and West Virginia 684,000 bushels. The average farm price per bushel on December 1, 1926, ranged from 75 cents in Minnesota to \$1.10 in Tennessee. The exports of buckwheat from the United States for the year ended June 30, 1926, as provisionally reported, amounted to 66,000 bushels valued at \$70,000 while for the preceding fiscal year the

quantity exported was 180,000 bushels valued at \$208,000. Similarly, the imports amounted to 84,000 bushels valued at \$69,000 and 542,300 bushels valued at \$503,000 for the two years respectively.

**BUILDING.** In 1926, building in the United States, as indicated by the total amount of contracts, reached the record total of about \$7,800,000,000, according to the estimates of the *Engineering News-Record*, as compared with \$7,500,000,000 in 1925 and \$6,000,000,000 in 1924. This, of course, included residential buildings and the smaller construction jobs as well as the industrial buildings and more important engineering work, for which the authority mentioned assembles figures in considerable detail. For industrial buildings of \$40,000 and more, other buildings of \$150,000 and more, and construction other than buildings of \$25,000 and more, the 1926 total was \$2,851,786,000 as compared with \$2,559,443,000 in 1925, or a gain of 11 per cent. During the year 1926 the Construction Cost Index Number rose about two per cent.

The statistical division of the F. W. Dodge Company gave its estimate for 1926 of building construction as \$6,800,000, or a gain of 3 per cent over 1925, and stated that this was practically all made in the first two months of the year, from which time there was a decline in the award of contracts for projects. A spirit of caution was manifested during the year, as it was generally felt that there was a danger of over-building, and that speculative tendencies should be held in check. Some of the warning signs which were observed were falling rents, the collapse of the Florida boom, the break in the stock market in March, and similar instances, which were taken as indicating the necessity of a period of caution. Nevertheless it was believed that the normal amount of construction in the United States under existing conditions reached between six and seven billion dollars worth of work annually.

The chief causes of the increase in 1926 were the large amount of industrial power plant and civil engineering developments which were put under way, and under the financial conditions at the end of the year it was anticipated that this class of construction would continue for some time. There was also considerable residential work, including high-class apartments and hotels, together with commercial buildings, which helped to swell the grand total, and it was not anticipated that the rate in this field would continue.

Looked at from another angle the year 1926 showed a decrease of \$230,542,857, or 5.9 per cent, from the total of building permits for the preceding year. This, according to returns made to Bradstreet's, broke the record that was made for the seven years stretching from 1919 to 1925.

The following table gives the totals of expenditure permitted for in the various groupings in the years 1926 and 1925:

	Twelve months	
	1926	1925
New England .....	\$172,060,638	\$225,757,885
Middle Atlantic .....	1,554,248,275	1,566,745,778
Central Western .....	876,408,832	897,028,778
Northwestern .....	129,281,412	146,292,922
Southwestern .....	184,959,021	220,582,514

	Twelve months	
	1926	1925
Southern .....	357,393,930	378,278,514
Far Western .....	378,277,260	448,489,489
Total United States	\$3,652,629,368	\$3,883,172,225
New York City .....	1,046,332,904	1,026,980,817
Outside N. Y. ....	2,606,296,454	2,856,191,408
Canada .....	109,076,771	84,865,124

According to statistics compiled by the Associated General Contractors, construction costs declined slightly during 1926, reaching the lowest average occupied in any year since 1922. The tendency toward lower cost levels, in force since midsummer of 1923, continued.

The lowest mark reached during 1926 was noted in October, and the highest level was assumed in May, the respective index figures being 195 and 199. The December figure was 196.

The decline in the average cost of operations in 1926 was largely the result of decreases, in the prices paid by general contractors for basic materials entering into their operations, of five points from the index figure of 183 established in 1925. The average of wages paid by contractors in the principal construction centres of the United States during 1926 was slightly more than the corresponding average registered for 1925.

**NOISELESS STEEL BUILDING.** On December 15, a notable demonstration of noiselessly welding a five-story steel building was made at Sharon, Penna., by the Westinghouse Electric and Manufacturing Company. This building, at the Sharon works of the Company, was the first multi-story skeleton structure designed specially for arc welding in place of the noisy riveting, and was thought by many to mark a new era in steel fabrication and erection. In this type of construction the riveters previously employed were converted into welders in three weeks of training, and it was found that the work not only could proceed noiselessly, but was more economical in the amount of steel required. The new building came as an outgrowth of many years' experiments by welding engineers, and according to their data, greater strength at joints and less steel in welding could be secured than in riveted construction. The Sharon building, for example, required 700 tons of steel, while for a similar building of riveted construction 800 tons would have been necessary. In the arc welding process cleaner looking columns and joints were obtained and the welded joints were found stronger than riveted joints, while an additional saving was the elimination of plates and angles and the possibility of using lighter beams. In riveted construction the size of the beam was determined not so much by the weight to be carried as by the strength of the riveted joint.

**WRECK OF STEEL BUILDING.** In connection with the great hurricane of September 18, at Miami, Fla., there occurred the first wrecking of a steel frame office building ever recorded. This was due to lack of strength to withstand the extraordinary wind pressure and inasmuch as other structures of similar nature resisted the wind the failure was assigned to poor design.

**BUKOWINA**, bōō'kō-vē'na. A former crownland in the Austro-Hungarian Empire, which was annexed to Rumania after the fall of the Central Powers in 1918-1919. Area, 4030 square miles; population, 800,098. It is represented, in the

Rumanian legislature by 19 senators and 16 deputies.

**BULGARIA.** A constitutional monarchy in the Balkans lying to the south of Rumania and the east of Jugo-Slavia. Capital, Sofia.

**AREA AND POPULATION.** As a result of the World War, the area of Bulgaria was reduced from 53,305 to 39,814 square miles. The estimated population on Jan. 1, 1925, was 5,033,900 as compared with the actual population, according to the census of 1920, of 4,846,971. The chief cities with their populations, according to the same census are: Sofia, 154,025; Philippopolis, 63,418; Varna, 50,819; Ruschuk, 41,574; Slivno, 28,590; Plevna, 27,440; Stara Zagora, 25,491; Choumen, 23,975; Burgas, 21,170.

**EDUCATION.** Elementary education is free and compulsory for children between the ages of seven and 14, and is supported by the state authorities. In 1923-24 there were 4052 national elementary schools, with 13,312 teachers and 458,330 pupils. There were also 1695 elementary private schools with 2525 teachers and 82,799 pupils. Secondary and higher schools are gymnasiums and progymnasiums, and various institutions for special instruction and training of teachers. The state university at Sofia in 1924 had 237 professors and 2373 teachers. There is also a free university with 45 teachers and 1865 students.

**PRODUCTION, ETC.** The principal occupation of the people is agriculture. The land is held in absolute freehold, the greater part of the holdings being under small proprietors (one to six acres). The methods of cultivation are primitive, although in recent years some farm machinery has made its appearance. About two-thirds of the people are engaged in cultivating the 9,182,409 acres of land under crops. The accompanying table from the *Statesman's Year Book* for 1926 shows the acreage and yield of the cereal crops in 1925:

Cereals	1925 "	
	Area Acres	Yield Tons
Wheat .....	2,586,139	1,351,075
Rye .....	452,603	225,792
Mealin .....	234,611	118,715
Barley .....	543,961	319,007
Oats .....	353,578	148,456
Spelt .....	22,104	12,026
Millet .....	19,397	9,117
Maize .....	1,530,612	.....
Rice .....	12,568	.....
Total .....	5,705,582	2,184,190

\* Excluding maize and rice.

Fruit is raised in large quantities especially around Kustendil; the wine production in 1924 was 16,720,000 gallons. Cotton was grown on 5650 acres in 1925 and the yield was 560,000 kilos. Honey, sugar, and tobacco are also raised to some extent. The minerals are rich, but considerably undeveloped. They include coal, iron, copper, and manganese. The total coal production in 1924 was 1,214,840 metric tons. Manufacturing is also rather backward although the government encourages industrial enterprises.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, both imports and exports increased during 1925, imports amounting to 7,291,341,000 leva and exports to 5,642,466,000 leva, as compared with 5,357,311,000 and 4,902,226,000 leva, respectively, for 1924. The unfavorable balance of 1,648,875,

000 leva for 1925 is the largest since the war, exceeding the 1923 adverse record of 1,583,525,000 leva. The swelling of imports, to which this result is attributable, was caused largely by cereal purchases to the extent of 300,000,000 leva, made necessary through the lateness of the 1924 harvest, though there were increases also in imports of textile goods, machinery and implements, and colonial products. In spite of the best crop in years, exports in 1925 were affected by the reduced shipment of grain and beans. The low prices prevailing on the world markets offered little inducement to the peasants to dispose of their product, and when prices stiffened later in the year the grain shipments were retarded by bad weather.

Tobacco showed the largest increase in the export list, exceeding the value of the previous year by more than 400,000,000 leva and incidentally establishing a new export record for this commodity. Increases also occurred in shipments of eggs, livestock, rawhides and silk cocoons. Germany, Italy, England, and Czechoslovakia, in the order named were the principal sources for Bulgarian imports. Exports went chiefly to Germany, Italy, Greece, Austria, and Switzerland. The value of exports declared to the United States through the American consulate at Sofia during 1925 amounted to \$1,164,128 as compared with \$1,427,055 in 1924. The leading items in 1925 were dry sheep and lamb skins, dry goat and kid skins, tobacco, attar of roses, copper matte, carpets and mugs.

**FINANCE.** The chaotic methods of financing which characterized the war period in Bulgaria lost their prominence for the first time in the budget of 1922-23. At the instance of the Interallied Commission the charges on the peace treaty obligations were transferred from the extraordinary to the ordinary budget, which is covered by the actual receipts of the government. The extraordinary budget now comprises only those expenses which are made for actual increase in the country's industrial equipment and its productive capacity. Moreover, funds are not authorized until the funds are actually available. The budget for 1925-26 balanced at 6,875,000,000 leva. The estimated receipts under this budget were increased over those of 1924-25 by 271,000,000 leva, of which the greater part was contributed by indirect taxes. The ordinary budget for 1926-27 as voted by the Sobranje, provided for a balance of revenue and expenditures at 6,924,000,000 leva.

**COMMUNICATIONS.** The number of vessels entered at the Black Sea ports in 1924 was 3841 of 1,489,389 tons; the number cleared, 4000 of 1,493,662 tons. At the Danube ports there entered 10,581 vessels of 2,331,572 tons and cleared 10,570 vessels of 2,303,999 tons. In 1923 Bulgaria had a railway mileage of 1613, all belonging to and operated by the state. Receipts of the Bulgarian National Railways diminished during the fiscal year 1925-26, ended March 31, as compared with the amount obtained during the preceding year. The 1925-26 total was 889,800,000 leva as against 923,500,000 leva for 1924-25. Freight transported decreased but the number of passengers increased.

**GOVERNMENT.** The king is at the head of the government, assisted by a council of ministers nominated by him, and a single legislative chamber known as the Sobranje composed of 227 members. In 1926 the king was Boris III, who suc-

ceeded to the throne upon the abdication of his father, Oct. 3, 1918. The parties in the Sobranje, elected in 1923, were distributed as follows: Government coalition, 172; radicals, 14; socialists, 30; national liberals, 8; agrarians, 39; communists, 99. The ministry as organized at the beginning of 1926 was: Premier and Minister of Interior, A. Liaptcheff; Education, N. Naidenoff; Justice, Dr. Kuleff; Commerce, M. Bobotchevsky; Finance, V. Molloff; Public Works, S. Vassileff; Posts and Railways, K. Georghieff; Foreign Affairs, A. Buroff; Agriculture, D. Cristoff; War, General Ivan Volkoff.

**HISTORY.** The year was a comparatively quiet one for Bulgaria, its peace only being marred from time to time by depredations along its borders by groups of bandits. At the very beginning of the year (January 3), the Tsankov government tendered its resignation to King Boris who accepted it and charged André Liaptcheff with the formation of a new government. He did so and presented the results to the King on January 4. The members of his cabinet are mentioned above in the paragraph on *Government*. In some quarters it was felt that the King had prepared the way for trouble with Jugo-Slavia by the appointment of Liaptcheff who was essentially a politician with views known to be unfriendly toward Belgrade. On the other hand, the King was glad to get rid of Premier Tsankov because of his propensity for stirring up internal troubles with his so-called terrorist rule. He was elected to the presidency of the Sobranje. At the very beginning of the year, the Interallied Military Control was withdrawn from Bulgaria because she had complied with all the treaty obligations set down for her. A general amnesty bill was passed in February which freed 7000 political prisoners and permitted the return of all exiles excepting the Communist Agrarian leaders who fled from Bulgaria and were still working for the overthrow of the existing régime.

During May there was considerable discussion in the legislature concerning the ratification of the treaty of friendship between Bulgaria and Turkey, which had been signed at Angora Oct. 28, 1925. The treaty was at first bitterly opposed because of the provisions concerning the liquidation of property of Bulgarian refugees. Needless to say, this group memorialized the legislature to reject the treaty. The premier urged ratification in order to establish good feeling between the two countries, and to provide an outlet for Bulgarian goods in the Turkish market. The Turkish press was severe in its denunciation of the delay on the part of Bulgaria in ratifying the treaty. At the end of May the Sobranje finally ratified it.

During the summer the press reported the oft-told story of the activity of Bulgarian bandits on the Rumanian and Jugo-Slavian borders. Considerable loss of life and property was reported in the Dobrudja area of Rumania. The League of Nations Secretariat was kept informed of the situation but did not feel called upon to interfere, and the countries involved were loath to complain to the League because Bulgaria was anxious to get a war refugee loan and Rumania was attempting to settle the Transylvanian minority question. The Bulgarian government was granted an advance of £400,000 by the Financial Committee of the League on July 23 for early crop sowing, etc., as a part of a loan

of £2,250,000 to be made later to help Bulgaria solve her refugee problem.

The question of the bandit raids took a more serious turn in August when the diplomatic representatives of Greece, Jugo-Slavia, and Rumania sent a joint note to Bulgaria demanding that the Bulgarian government take more stringent methods in dealing with the brigands on her borders and that the government "put an end to the activities of revolutionary elements which are well known to it, and prevent any recurrence of comitadji raids." Bulgaria replied to this note that she was just as much concerned in keeping the peace on her borders as her neighbors were, but that the provisions of the Treaty of Neuilly did not permit her an armed force large enough to cope with the situation, and furthermore, she was perfectly willing to let the League of Nations inquire into the entire Balkan situation. In the meantime she sent a petition to the League asking that such an investigation take place. The senders of the joint note were dissatisfied with Bulgaria's reply because there were no guarantees that the depredations would stop.

**BULLOCK**, LIEUTENANT-GENERAL SIR GEORGE, K.C.B. British soldier, died January 28. He was born at Warangol, India, Aug. 15, 1851, and was educated at Cheltenham and University College, Oxford, before going to Sandhurst for his military training. His first commission was in the First Battalion of the Eleventh Foot (Devon Regiment) in 1872, and after studying at the Staff College in 1880, he became brigade major at Shorncliffe, serving from 1882-87, and as Deputy Assistant Adjutant General in India from 1889-94. He was in command of the Second Devon Regiment in South Africa in 1899 and was captured by the Boers after a severe struggle at Colenso. Released from captivity he and his command were attacked at Honing Spruit by greatly superior numbers and conducted a spirited defense. In this campaign he was made brigadier general commanding a column, and was mentioned in dispatches, and in 1900 was made brevet colonel, C. B. He served as chief staff officer in Egypt from 1902-04, and in the latter year was made brigadier general commanding Alexandria until 1905, when he was chosen major general commanding in Egypt in which capacity he served until 1908. In 1910-11 he commanded the West Riding Territorial Division, and in 1912 was made governor and commander-in-chief of Bermuda. While General Bullock was instinctively a soldier and vigorous fighter, yet the Boer War was the only occasion when he saw active service, as he was retired at the time of the World War. He was created Knight Commander of the Bath in 1911.

**BURBANK**, LUTHER. American plant breeder and horticulturist, died at Santa Rosa, Cal., April 11. He was born near Lancaster, Mass., Mar. 7, 1849, and spent his boyhood on a farm, receiving his early education at the Lancaster Academy. At a very early age he was interested in horticulture and experiments; he finally became a nurseryman in his native town where he continued his experiments and studies. After a visit to California in 1875 he moved to Santa Rosa, where he established his farms and experimental gardens. Previously at the age of 22 he had produced the Burbank potato, an improved variety, which soon was recognized by the agricultural world; he worked earnestly and

with success, hoping to be able to abandon the commercial side for extensive experiments in plant breeding and evolution.

In 1890 the success of his farms was such as to enable him to devote himself entirely to producing better forms of fruits and vegetables, and soon his work was widely recognized. In addition to the Burbank potato he originated the rapid-growing edible thornless opuntias (cactus), Gold, Wickson, Apple, October, Chalco, America, Santa Rosa, Formosa, Beauty, Eldorado, and Climax plums; the Giant Splendor, Sugar, Standard and Stoneless prunes; a new fruit, the Plumcot which was a combination of the plum and apricot; the Burbank and Abundance cherries; the Peachblow, Burbank and Santa Rosa roses; gigantic forms of amaryllis, tigridias, the Shasta Daisy, Giant and Fragrance callas; and various new apples, peaches, nuts, berries, and other valuable trees, fruits, flowers, grasses, grains and vegetables. At the time of his death Mr. Burbank had over 3000 extensive experiments under way and was growing over 5000 distinct botanical specimens from all parts of the world. Every year more than a million plants were raised at the Santa Rosa farms for testing. Some of his plants were under observation for 25 years, and a careful record was maintained of the various observations and changes.

Burbank had been a special lecturer on evolution at the Leland Stanford Jr. University, and was a member of many scientific and horticultural societies in Europe and the United States, as well as being interested in numerous local activities. He was the author of: *Training of the Human Plant; Methods and Discoveries* (12 volumes); *How Plants are Trained to Work for Man* (8 volumes), (1921); and numerous magazine articles. In addition to his practical work in horticulture Burbank aroused a universal interest in plant breeding, and he was looked upon as one who had enriched horticulture and its votaries through his improved fruits, and had developed many wonders for the flower garden. He was one of the foremost exponents of evolution, and shortly before his death became involved in a controversy in which he expressed himself as opposed to the traditional fundamentalist view of religion.

**BURGOYNE**, SURRENDER OF. See CELEBRATIONS.

**BURMA**. The largest and most easterly province of British India; since 1923, a governor's province under the Government of India Act of 1919. Area, 262,732 square miles; population (1921), 13,212,192. Kangoon, with a population of 341,962, is the capital of Lower Burma; and Mandalay, with a population of 148,917, is the capital of upper Burma. Politically Burma is a province of British India, but geographically and socially it may be regarded as a separate unit having little in common with India proper. Being almost entirely agricultural, it does not share the rest of the country's industrial ideas. Such industries as Burma has are those essential for the preparation of its products for the market—rice mills for husking rice, sawmills for squaring its teak, refineries for oil, and cotton gins. Rice mills alone make up about three-fifths of its total industrial community. The principal crop is rice, two-thirds of Burma's agricultural area being given to its culture. In poor years most of the crop is consumed locally, leaving but little surplus for

export. The rice crop harvested at the beginning of 1925 yielded a total of 5,890,000 tons of husked rice. Although the 1926 crop was estimated as somewhat smaller, it was expected that almost 3,000,000 tons would be available for export. The cotton crop of 1925 was also large and yielded 67,200 bales of 400 pounds each as compared with 47,600 bales for 1924. The total value of exports in 1925 was \$269,731,000 and imports, \$130,569,500. Burmese railways, which run chiefly north and south, had an aggregate length in 1926 of 1859 miles. The capital invested amounted to \$91,129,270, of which the government owned \$67,690,950.

The government is administered by a governor and legislative council. Governor in 1926, Sir Spencer Harcourt Butler.

**BURRAGE, HENRY SWEETSER.** An American clergyman, editor, and historian, died at Kennebunkport, Me., March 9. He was born at Fitchburg, Mass., Jan. 7, 1837, and after graduating from Brown University with the degree of A. M. in 1861, served in the Civil War in the 36th Massachusetts Volunteers from 1862-65, being promoted through successive grades to captain and brevet major. He also acted as assistant adjutant-general on the staff of the First Brigade, Second Division, Ninth Army Corps. Ordained to the Baptist ministry in 1869 he became pastor at Waterville, Me., and then became editor of *Zion's Advocate*, a position he held until 1905. In 1905 he was chaplain of the National Home for Disabled Volunteer Soldiers, serving until 1912, and was state historian of Maine from 1907 to his death. He was active in the Baptist denomination of his state, being recording secretary of the Maine Baptist Missionary Convention from 1875-1905, a member of the American Baptist Missionary Union, 1876-1904, and president of the Maine Baptist Education Society, 1893-98.

He took a prominent part in various patriotic and hereditary organizations, being recorder of the Maine Commandery of the Loyal Legion from 1889-1912, secretary of the Maine Society of the Sons of the American Revolution, 1890-1905, secretary of the Maine Society of Colonial Wars, 1898-1905, and chaplain in chief of the Loyal Legion from 1899 until his death. He was a trustee of Colby College from 1881-1905, and of Newton Theological Institution from 1889-1906. He was a trustee of Brown University from 1889-1901 when he became a member of the board of fellows. He was a prolific writer dividing his interest between theological and colonial history. His works include: *Brown University in the Civil War* (1868); *The Act of Baptism in the History of the Christian Church* (1879); *History of the Anabaptists of Switzerland* (1882); *Baptist Hymn Writers and Their Hymns* (1888); *History of the Baptists in New England* (1894); *History of the Baptists in Maine* (1904); *Gettysburg and Lincoln* (1906); *Early English and French Voyages* (1906); *Maine at Louisburg in 1754* (1910); *Beginnings of Colonial Maine* (1914); *Maine in the Northeastern Boundary Controversy* (1919); *Maine Historical Memorials* (1922); *Gorges and the Grant of the Province of Maine, 1622* (1923); *Thomas Hamlin Hubbard, Brevet Brigadier General United States Volunteers* (1923); also papers in reviews and magazines. He was the editor of: *History of the Thirty-sixth Massachusetts Volunteers* (1864); *Rosier's*

*Relation of Waymouth's Voyage to the Coast of Maine, 1605* (1887); etc.

**BURRELL, DAVID JAMES.** American clergyman and author, died at Madison, N. J., December 5. He was born at Mt. Pleasant, Pa., Aug. 1, 1844, and after graduating at Yale in 1867, studied at the Union Theological Seminary in New York, being ordained to the Presbyterian ministry in 1872. After working for four years as a missionary in Chicago he became pastor of the Second Church at Dubuque, Iowa, in 1876, serving until 1877, when he was called to the Westminster Church at Minneapolis. In 1891 he went to the Marble Collegiate Church in New York City where he was pastor at the time of his death. In addition to his pastoral work he taught practical theology in Princeton Seminary for many years and he was also a summer preacher at Elberon, N. J. He was president of the Anti-Saloon League of New York City, and was vice-president of the Lord's Day Alliance of the United States. He was a member of the executive committee of the United Society of Christian Endeavor. He received the honorary degrees of D.D. from Parsons College in 1883 and from Rutgers College in 1910, and that of LL.D. from Hope College in 1900. At the time of his death he was senior minister of the Collegiate Reformed Protestant Dutch Church, New York City, the oldest church on the North American Continent, being founded in 1628. In theology he was extremely conservative and his sermons were printed and widely distributed. He wrote extensively and some of his more important works included: *The Religions of the World* (1891); *Hints and Helps* (1891-93); *The Gospel of Gladness* (1892); *The Early Church* (1897); *The Religion of the Future* (1894); *The Wonderful Teacher* (1902); *Teachings of Jesus Concerning the Scriptures* (1904); *The Lure of the City* (1908); *The Cloister Book* (1909); *In David's Town* (1910); *At the Gate Beautiful* (1911); *The Home Sanctuary* (1911); *The Gateway of Life* (1912); *The Old-Time Religion* (1913); *The Sermon* (1913); *We Would See Jesus* (1914); *The Apostles' Creed* (1915); *Why I Believe the Bible* (1917); *The Laughter of God* (1918); *Campaigns of Paul* (1919); *The Resurrection and the Life Beyond* (1920); *Paul's Companions* (1921); and *Paul's Letters* (1921).

**BUSSES, MOTOR.** See AUTOMOBILES.

**BUTTER.** See DAIRYING.

**BUTTRICK, WALLACE.** American clergyman and educator, died in Baltimore, Md. May 27, while a patient at the Johns Hopkins Hospital. He was born at Potsdam, N. Y., October 23, 1853, and after studying at Ogdensburg Academy, the Potsdam Normal School, and enjoying private tuition, graduated from the Rochester Theological Seminary in 1883. He was ordained a Baptist minister the same year, and became pastor of the First Church of New Haven, Conn., serving until 1889, when he became pastor of the First Church of St. Paul, Minn., serving there until 1892, when he was called to Emmanuel Church, Albany, N. Y., a charge he held until 1902, when he became secretary of the General Education Board. His success in this work led to his election as president of the Board in 1917, a position he held until 1923 when he became its chairman, which position he held at the time of his death.

He was also a member of the Rockefeller

Foundation, of the International Health Board, of the China Medical Board, and trustee of the Peking University Medical College. He received the degree of D.D. from the University of Rochester in 1898, that of L.H.D. from Union in 1914, and LL.D. from Bowdoin in 1925. Dr. Buttrick was also much interested in foreign mission work, serving as a member of various missionary boards in the Baptist denomination. He was a man of keen judgment regarding men and policies, which worked for success in the promotion of education and good citizenship, and his wise and sympathetic aid to the cause of education throughout the southern states was of great value in their educational development. His work for education in the United States was widely appreciated and his death which came suddenly from a stroke evoked many expressions of appreciative sympathy from individuals and educative bodies.

**CALIFORNIA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 3,426,861. The estimated population on July 1, 1926, was 4,316,000. The capital is Sacramento.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay	1926	1,849,000	5,149,000 *	\$62,541,000
	1925	1,925,000	5,624,000 *	77,598,000
Barley	1926	1,080,000	32,400,000	18,792,000
	1925	1,050,000	32,550,000	24,412,000
Cotton	1926	169,000	128,000 <sup>b</sup>	8,960,000
	1925	160,000	122,000 <sup>b</sup>	13,397,000
Wheat	1926	653,000	12,015,000	15,620,000
	1925	608,000	11,457,000	16,956,000
Rice	1926	149,000	7,986,000	10,462,000
	1925	103,000	4,800,000	8,160,000
Potatoes	1926	43,000	6,923,000	9,138,000
	1925	43,000	6,837,000	13,674,000
Sweet potatoes	1926	12,000	1,164,000	1,280,000
	1925	9,000	1,008,000	1,714,000
Corn	1926	77,000	2,510,000	2,661,000
	1925	81,000	2,843,000	3,355,000
Sugar beets	1926	48,000	895,000 *	.....
	1925	76,000	486,000 *	4,005,000
Grapes	1926	.....	2,040,000 *	53,040,000
	1925	.....	1,912,000 *	53,536,000
Peaches	1926	.....	21,252,000	19,977,000
	1925	.....	16,418,000	14,119,000
Dry beans	1926	805,000	5,460,000	16,380,000
	1925	240,000	4,560,000	18,696,000

\* tons, <sup>b</sup> bales.

**MINERAL PRODUCTION.** The State ranked second only to Pennsylvania in respect to the value of its total mineral production of 1924, given by the U. S. Bureau of Mines as \$428,175,652, as against \$375,492,868, the total for 1923. More than half of the 1924 total was derived from the value of petroleum produced. Petroleum production attained the quantity of 230,148,000 barrels in 1925, as against 228,993,000 barrels in 1924 and 262,876,000 barrels in 1923; and a value in 1925 estimated at \$320,000,000, as against \$274,653,000 in 1924 and \$242,731,000 in 1923. The State retained first place in 1925 in quantity of petroleum produced. Cement was produced in 1925 to the quantity of 12,941,000 barrels, and in 1924, of 11,615,379 barrels. Shipments were valued in 1925, at \$25,853,000 and in 1924 at \$25,532,000. Natural gas production attained the quantity of 189,692,000 M cubic feet in 1924, and of 131,434,000 M cubic feet in 1923; and a value of \$35,949,000 in 1924 and \$22,787,000 in 1923. Gasoline from natural

gas was produced in the quantity of 303,200,000 gallons in 1925, and of 232,579,000 in 1924; and to a value of \$32,000,000 (estimated) in 1925 and \$22,690,000 in 1924. Clay products attained a value of \$20,994,732 for 1924, and of \$20,883,053 for 1923. The State's gold production was again the highest for any State, being in 1925, 641,849 troy ounces, valued at \$13,268,200, and in 1924, 633,021 troy ounces, valued at \$13,085,700. There were produced in 1925, 3,240,400 troy ounces of silver, valued at \$2,248,838; in 1924, 3,598,773 troy ounces, valued at \$2,411,153. Copper production was 46,943,604 pounds in 1925, and 49,433,716 pounds in 1924. The copper produced in 1924 was valued at \$6,826,039. Among other mineral productions of the State were asphalt, to the quantity in 1924 of 492,045 short tons, valued at \$5,689,315; salt, 268,112 short tons, valued at \$1,361,166; sand and gravel, 11,132,930 short tons, value \$6,653,536; and stone, 7,192,730 short tons, value \$8,635,602. Figures on 1925 production of minerals are in all cases taken from the U. S. Bureau of Mines Preliminary Summary covering that year.

The value of gold, silver, copper, lead, and zinc produced at mines in California in 1926, according to the estimate of the U. S. Bureau of Mines was \$19,078,000, a decrease of \$4,206,354 or 18 per cent as compared with the value of metals produced in 1925. There were decreased yields of 11 per cent in gold, 44 per cent in the value of silver, and 34 per cent in the value of copper, but increases of 13 per cent in the value of lead and 38 per cent in the value of zinc produced as compared with the previous year. The production of gold in 1926 was 565,000 ounces, valued at \$11,680,000, a decrease of \$1,385,330 as compared with 1925. The output of both placer and deep mines was less than in 1925, though the dredge output was nearly as large as that of the previous year. The dry year interfered with hydraulic work in all sections but did not materially restrict quartz milling. Serious forest fires destroyed several quartz mills in Tuolumne County. The silver produced in 1926 was 1,911,000 ounces, valued at \$1,192,000, as compared with 3,054,416 ounces valued at \$2,119,765 in 1925. The California Rand Silver was not productive after the first of October, which accounts for part of the decrease, but the large decrease in copper ore mined also affected the silver yield adversely and the lead ores shipped in 1926 were not so rich in silver as those produced in 1925.

The production of copper in 1926 was 31,500,000 pounds, valued at \$4,360,000, as compared with 46,864,913 pounds valued at \$6,654,818 in 1925. There was a much smaller yield of copper from Shasta County mines as compared with the previous year as a consequence of the withdrawal of the United States Smelting, Refining & Mining Company's operations in that field. The lead mines of southern California increased their output of lead by 1,183,800 pounds to a total of 7,750,000 pounds, valued at \$643,000, in 1926. Zinc produced by California mines in 1926 amounted to 16,370,000 pounds, valued at \$1,203,000, an increase of 4,880,763 pounds and \$329,818 in value as compared with the previous year.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general

departments of the State for the fiscal year ending June 30, 1925, were \$58,947,702, and were at the rate of \$14.86 per capita. They included \$20,775,402 for education, apportioned to minor State divisions. The rate per capita for maintenance and operation of the general departments was in 1924, \$14.14; and in 1918, \$7.18. The expense of public service enterprises, \$1,754,155; interest on debt, \$4,408,123; and outlays for permanent improvements, \$10,158,806, added to payments for maintenance and operation of departments, made a total of \$75,088,786. For highways was expended the sum of \$15,003,956, of which \$8,492,099 was for maintenance and \$6,511,257 for construction.

Revenue receipts of the State totaled \$80,365,935, and were at the rate of \$20.26 per capita. They exceeded by \$15,435,955 the payments except for permanent improvements, and likewise exceeded by \$5,277,149 total payments, these included. The excess was reflected in the form of purchase of investments and of cash balances. Property and special taxes formed 19.6 per cent of the revenue in 1925, as against 22.4 per cent in 1924 and 23.7 per cent in 1918; their per capita rate was \$3.97 in 1925, \$3.88 in 1924 and \$2.20 in 1918. Earnings of the general departments and compensation for services rendered by State officials furnished 7.5 per cent of the 1925 revenue; business and non-business licenses, 58.4 per cent, as against 51.7 per cent in 1924. The increased license revenue was due to higher receipts from the sale tax on gasoline and from tax on steam and electric railroads. Receipts from licenses included those from incorporated companies, from the gasoline sales tax and from the motor vehicle license tax.

The net indebtedness of the State on June 30, 1925 was \$100,072,575, or \$25.22 per capita, as against \$23.83 per capita in 1924 and \$12.19 in 1918. The assessed valuation of property subject to tax was not rendered, for the reason that no general property tax is levied for State purposes when other sources of revenue suffice.

TRANSPORTATION. The total mileage of road line Dec. 31, 1925 was 8288.07. There were constructed in 1926, 25 miles of first track and 6 miles of second track; in all, 31 miles of track. The Mojave and Northern abandoned 7 miles of line.

EDUCATION. The failure of Governor Richardson to gain a renomination in the State primaries was regarded as having an important bearing on educational progress in California. He had been opposed by leaders in the educational organization as unfriendly to the policies that they sponsored. Consequently his defeat was interpreted as strengthening the prospects of a liberal State policy. By the passage of a constitutional amendment the Legislature was authorized to effect a classification and organization of school districts, with a view to correcting anomalies and uncertainties in the existing district system. According to Anna G. Fraser, State director and vice-principal of the Oakland High School, as quoted in the "Annual Roll Call" of the *Journal of the National Education Association*, there was rapid development of the junior college idea in California during the year.

The total enrollment of pupils in all public schools of the State in 1926, as reported by the State Department of Education, was 1,183,474. Elementary school enrollment was 691,-

534; that in high schools, 394,010. There was expended for public education in the State, including outlay for sites and school buildings, \$145,593,683. Salaries of teachers averaged in the regular elementary schools, \$1698, and in the regular high schools, \$2288.

CHARITIES AND CORRECTIONS. The Department of Institutions, established July 29, 1921, has general charge of the correctional and charitable institutions. The former State Board of Charities and Corrections, renamed in 1925 the Department of Public Welfare, coexists and co-operates with it. The two chief penal institutions of the State are the San Quentin State Prison, which reported 3512 inmates late in 1926 and the Folsom State Prison, at Represa, 1764 inmates. The six State hospitals for the insane and the numbers of their inmates were as follows: Agnews State Hospital, at Agnews, 1840; Mendocino State Hospital, at Talmadge, 1126; Napa State Hospital, at Napa, 2845; Norwalk State Hospital, at Norwalk, 1246; Southern California State Hospital, at Patton, 2632; Stockton State Hospital, at Stockton, 3017. A school for mental defectives, the Sonoma State Home, at Eldridge, had 2113 inmates. Of the three State schools for delinquents, the Whittier State School, at Whittier, had 320 inmates, the Preston School of Industry, at Lone, 574, and the Ventura School for Girls, at Ventura, 172.

POLITICAL AND OTHER EVENTS. At the election of November 2, C. C. Young, the lieutenant-governor and Republican candidate for governor, was elected over the Democratic candidate, Justus S. Wardell, by a plurality of not far from 200,000. Wardell advocated measures opposed to alcoholic prohibition. He had gained the primary nomination despite the opposition of W. G. McAdoo, and was regarded as against the proposal to nominate McAdoo as Democratic candidate for president in 1928. Samuel M. Shortridge, Republican, was reelected to the United States Senate, by a large plurality. He defeated John B. Elliott, Democrat, who was supported by W. G. McAdoo and the Anti-Saloon League. Voters of the State gave a majority against a referendum proposal to the effect that the Wright act, the State's prohibition enforcement law, be repealed. The vote reflected sharp division of sentiment between sections of the State. San Francisco voted heavily for the proposal to repeal, while in the southern portion of the State the sentiment in favor of the law prevailed. The State officers elected in November, 1926, to take office in 1927, were: Lieutenant-Governor, Burton Fitts; Secretary of State, Frank C. Jordan; Treasurer, Charles G. Johnson; Comptroller, Ray L. Riley; Attorney-General, U. S. Webb; Surveyor-General, W. S. Kingsbury; Superintendent of Public Instruction, Will C. Wood.

Litigation as to liability for the tax on community property under the State law was carried to the United States Supreme Court, which reversed the District Court of the Northern District of California, and on January 4 declared the tax assessable entirely against the husband, instead of its being divided between husband and wife. There started at San Francisco in April a strike of carpenters which led to a series of acts of violence in the building trade. A citizens' committee of 100 called on Mayor Rolph on September 28 to protest against the disorders and demand that they be terminated. The wage board of three members formed to



make annual adjustments in the pay scale of the building industry held hearings and reported December 9, recommending an increase of \$1 a day for bricklayers to \$11; of \$1 a day to carpenters, to be paid \$9; and of many other increases of \$1 a day or over. Civil Service Commissioner David J. Reese in his biennial report published in December asserted that there was duplication of departmental activities in the State government, and urged a retirement and pension law for State employees. A number of cities in the State adopted the uniform vehicular traffic regulations previously proposed. The State corporation department instituted an investigation into the activities of the California Olive Growers, Inc., in the cooperative marketing of the olive crops of the three preceding years. Effort was made to trace the disposal of some 5,000,000 pounds of olives of which it was asserted that the corporate books did not present a satisfactory account. The San Francisco Chamber of Commerce reported December 2 that it had conferred with the Federal Board of Engineers for Rivers and Harbors with a view to obtaining a survey of San Francisco harbor, preparatory to the removal of obstructions to navigation and the clearing of a channel 2000 feet wide and from 35 to 40 feet deep to the waterfront.

**OFFICERS.** Governor, Friend William Richardson; Lieutenant-Governor, C. C. Young; Secretary of State, Frank C. Jordan; Treasurer, Charles G. Johnson; Comptroller, Ray L. Riley; Attorney-General, U. S. Webb; Adjutant-General, Richard R. Mittelstaedt; Surveyor-General, W. S. Kingsbury; Superintendent of Public Instruction, Will C. Wood; Commissioner of Corporations, E. M. Daugherty; Librarian, Milton J. Ferguson; Legislative Counsel, T. M. Gannon; President Railroad Commission, Clyde L. Seavey; Chairman Industrial Accident Commission, John A. McGilvray; Commission of Insurance, George D. Squires; Chairman Highway Commission, Harvey M. Toy; Director Department of Agriculture, G. H. Hecke; Labor Commissioner, Walter G. Mathewson.

**JUDICIARY.** Supreme Court: Chief Justice, Louis W. Myers; Associate Justices, William P. Lawler, Thomas J. Lennon, William H. Waste, Emmet Seawell, John E. Richards, John W. Shenk.

**CALIFORNIA, UNIVERSITY OF.** A coeducational institution of higher education at Berkeley, Cal., with branches at Los Angeles, San Francisco, Davis, Riverside, and La Jolla; founded in 1868. The number of full-time resident students in courses leading to degrees, on Nov. 1, 1926, was 16,880, of whom 7889 were women and 8991 were men. The Extension Division had, in 1925-26, an enrollment of 36,021. For the summer school of 1926, 10,663 students registered. At the beginning of the fall term there were approximately 1500 members of the teaching staff. The endowment funds for 1925-26 amounted to \$10,506,506.06, and the income for the year to \$432,054.73, divided as follows: for current use, \$371,356.73; addition to funds, \$36,367.98; payment on trust funds, \$24,330.02. The library contained 638,993 volumes. During the year, Los Angeles County and cities in the county, presented the University with a new site of 382 acres valued at approximately \$3,500,000, for the Southern

Branch. A bond issue providing \$6,000,000 was voted by the people of California on November 2, to be divided equally between the University at Berkeley and the Southern Branch at the new Westwood site. An agricultural engineering building at the branch of the College of Agriculture at Davis, was under construction, the cost to be about \$140,000. President, William Wallace Campbell, Sc.D., LL.D.

**CALVERT, LORD BALTIMORE; CELEBRATION BY CALVERT ASSOCIATIONS.** See CELEBRATIONS.

**CAMBODIA.** A French protectorate of Indo-China lying to the north of Cochin-China, west of Annam, and south of Laos and Siam. Area, 67,550 square miles; population at the census of 1924, 2,465,581, of whom 1581 were Europeans (excluding the military forces). Pnom-Penh, with a population of 90,080, is the capital and chief town. The soil is very fertile but only a comparatively small area is under cultivation. The chief product is rice, its annual export amounting to about 250,000 tons. The other products include cotton, pepper, kapok, salt fish, hides, cattle, coffee, sugar, and iron. The imports in 1924 were valued at 32,036,186 francs and the exports at 13,753,000 francs. The budget for 1925 balanced at 8,856,882 piastres. Nominal king at the beginning of 1926, Sisowath, who succeeded in 1904. Cambodia is one of the five component states of French Indo-China, to which article reference should be made.

**CAMBRIDGE, ADA** (MRS. GEORGE FREDERICK CROSS). Australian novelist and poet, died at Melbourne, Australia, July 20. She was born at Wiggenhall St. Germain's, Norfolk, England, Nov. 21, 1844, and lived in Norfolk and Cambridgeshire until 1870, when she married the Rev. G. F. Cross and went with him to Australia where she resided in Victoria, mainly in bush districts, and later in Williamstown, a part of Melbourne, where she lived from 1893-1912. Among her writings a volume of poems, *The Hand in the Dark* (1913) was marked by sensitiveness and sympathy and was full of deep feeling. Her novels, however, were considered more important, her best stories being: *A Marked Man* (1891); and *Not All in Vain* (1892). In 1903 she published *Thirty Years in Australia*, and in 1912 after revisiting England, *The Retrospect*.

**CAMEROON or CAMEROONS.** See KAMERUN.

**CANADA.** A dominion of the British Empire in North America, bounded on the north by the Arctic Ocean, on the south by the United States, and on the east and west by the Atlantic and Pacific Oceans, respectively. Capital, Ottawa.

**AREA AND POPULATION.** The total area is placed at 3,797,123 square miles, of which 3,654,200 is land area and 142,923 water area. It consists of nine provinces, each with its own parliament and administration, and two territories, viz., the Northwest Territory and Yukon Territory, each under a commissioner, assisted by a council. According to the census of 1921, the total population was 8,788,483 as compared with 7,206,643 in 1911.

The accompanying table from the *Canada Year Book* for 1925 shows the areas of the provinces, etc., with the population at recent censuses:



Province	Land area sq. miles	Water area sq. miles	Total area sq. miles	Population, 1901	Population, 1911	Population, 1921
Prince Edward Island .....	2,184	.....	2,184	103,259	93,728	88,615
Nova Scotia .....	21,068	360	21,428	459,574	492,358	523,837
New Brunswick .....	27,911	74	27,985	331,120	351,889	387,876
Quebec .....	690,865	15,969	706,834	1,648,898	2,005,776	2,301,199
Ontario .....	365,880	41,382	407,262	2,182,947	2,527,292	2,933,662
Manitoba .....	231,926	19,906	251,832	255,211	461,394	610,118
British Columbia .....	243,381	8,319	251,700	178,657	392,480	524,582
Alberta .....	252,925	2,860	255,285	73,022	374,295	588,454
Saskatchewan .....	353,416	2,439	355,855	91,279	492,432	757,510
Yukon .....	206,427	649	207,076	27,219	8,512	4,157
North-West Territories .....	546,522	7,500	554,032	20,129	6,507	7,988
	218,460	9,700	228,160			
	493,225	34,265	527,490			
Royal Canadian Navy .....	.....	.....	.....	.....	.....	485
Total .....	3,654,200	142,923	3,797,123	5,371,315	7,206,643	8,788,483

The principal cities with their populations in 1921 are: Montreal, 618,506; Toronto, 521,893; Winnipeg, 179,087; Vancouver, 117,217; Hamilton, 114,151; Ottawa, 107,843; Quebec, 95,193; Calgary, 63,305; London, 60,959; Edmonton, 58,821; Halifax, 58,372; St. John, N. B., 47,166; Victoria, 38,727; Windsor, 38,591.

The accompanying table from the *Canada Year Book* for 1926 shows the vital statistics of population for recent years (The Registration Area of Canada excludes Quebec and the Territories):

Catholic, Presbyterians, Anglicans, Methodists, Baptists, Lutherans, the Greek Church, Jews, Mennonites, and Congregationalists. Of these, 3,389,636 were Roman Catholics, 1,409,407 Presbyterians, 1,407,994 Anglicans, and 1,159,458 Methodists. See CANADA, UNITED CHURCH OF.

EDUCATION. The control of education in the Dominion is directly in the hands of the provinces. For the latest available statistics on education in each province, consult the articles on that province. The latest available figures for

	Years	Births	Birth rate	Marriages	Rate per	Deaths	Rate per	Excess of	Rate natural in-
			per 1,000		1,000		1,000	births over	crease per 1,000
								deaths	population
Canada (registration area) .....	1921	168,979	26.4	51,073	8.0	67,722	10.6	101,257	15.8
	1922	164,194	25.1	47,811	7.3	69,028	10.5	95,166	14.5
	1923	156,897	23.7	49,102	7.4	70,182	10.6	86,834	13.1
	1924	157,595	23.4	47,538	7.1	66,197	9.8	91,398	13.6
	1925	154,509	22.6	47,151	6.9	66,419	9.7	88,090	12.9
Quebec * .....	1921	88,749	37.6	18,659	7.9	33,433	14.1	55,316	23.4
	1922	88,377	35.1	16,609	6.5	33,459	13.3	54,918	21.8
	1923	83,579	32.2	17,361	6.3	35,148	13.6	48,431	18.6
	1924	86,930	35.1	17,591	7.1	32,356	13.0	54,574	22.0
Canada (exclusive of the Territories) ..	1921	257,728	29.3	69,732	8.0	101,155	11.6	156,573	17.8
	1922	252,571	27.8	64,420	7.1	102,487	11.3	150,084	16.5
	1923	240,476	26.1	66,463	7.2	105,330	11.4	135,265	14.7
	1924	244,525	26.5	65,129	7.1	98,553	10.7	145,972	15.8

\* Rates for Quebec have been calculated on provincial estimates of population.

The following table from the *Canada Year Book* for 1926 shows the number of immigrants during the four years ending Mar. 31, 1926:

	Number of immigrants arrived in the years ended March 31			
	1922-23	1923-24	1924-25	1925-26
English and Welsh ..	19,769	38,143	27,625	19,786
Irish .....	3,668	9,719	9,379	5,993
Scottish .....	11,071	25,057	16,174	10,295
Total British .....	34,508	72,919	54,906	37,030
The United States ..	22,007	20,521	10,914	18,778
Austrian .....	46	82	75	75
German .....	216	1,769	2,215	7,356
Norwegian and Swedish ..	1,455	5,960	4,688	2,407
French and Belgians ..	597	2,032	1,626	1,561
Italians .....	2,074	6,379	2,349	1,838
Jews .....	2,793	4,255	4,459	3,587
Russians and Finlanders ..	1,393	10,698	9,672	2,542
Other nationalities ..	6,798	23,945	15,458	21,090
Total .....	72,887	148,560	111,362	96,064

The religious denominations in the order of their numerical importance in 1921 were: Roman

Canada as a whole are shown in the accompanying table, an extract from the Survey of Education in Canada by the Dominion Bureau of Statistics, for 1925.

EDUCATION. Higher education in Canada is carried on in 23 universities and 82 colleges, including 21 classical colleges in Quebec. Of the universities six are state-controlled (New Brunswick, Toronto, Manitoba, Saskatchewan, Alberta, and British Columbia); four others are undenominational (Dalhousie, McGill, Queen's, and Western); while the remainder are denominational. The 23 universities had 3864 professors and 49,843 students in 1924-25. Some of the undenominational universities receive state assistance. The denominational universities include: King's, Acadia, and St. Francis Xavier in Nova Scotia; Mt. Allison in New Brunswick; Laval and Bishop's College in Quebec; and McMaster and Ottawa in Ontario.

Provinces	Year ended	Schools *	Teachers	Pupils	Expenditure Dollars
Ontario .....	Dec. 31, 1924 Elem. }				
	June 30, 1925 Sec. }	7,450	17,558	671,811	45,080,665
Quebec .....	June 30, 1924	7,797	18,699	488,822	27,917,738
Nova Scotia .....	July 31, 1924	1,769	8,331	112,852	8,704,939
New Brunswick .....	June 30, 1925	1,472	2,484	80,145	8,348,873
Manitoba .....	June 30, 1925	1,991	4,028	145,834	8,547,445
British Columbia .....	June 30, 1925	759	8,294	97,954	7,869,088
P. E. Island .....	June 30, 1925	472	616	17,427	452,699
Alberta .....	June 30, 1925	3,361	4,864	145,892	9,730,091
Saskatchewan .....	June 30, 1925	6,254	7,520	97,954	14,432,176
Total .....		31,325	62,394	1,965,832	121,034,234

\* Where possible the number of school-houses is given, and elsewhere the number of school districts with schools in operation.

AGRICULTURE. The accompanying table from *Canadian Monthly Bulletin of Agricultural Statistics* for March, 1926 shows the estimated agricultural wealth and production for 1925:

	Value in thousands of dollars
Land .....	3,316,061
Buildings .....	1,832,684
Implement and machinery .....	665,172
Live stock .....	704,287
Poultry .....	47,171
Animals on fur farms .....	9,000
Agricultural production .....	1,708,567
Total .....	7,832,942
	Production in thousands of dollars
Field crops .....	1,153,395
Farm animals .....	151,424
Dairy products .....	253,269
Poultry and eggs .....	69,675
Fruits and vegetables .....	52,667
Miscellaneous .....	28,127
Total .....	1,708,567

The number of livestock in 1925 was as follows:

#### LIVESTOCK IN CANADA, JUNE, 1925

	Number	Value 1,000 Dollars
Horses .....	3,554,041	245,784
Milch cows .....	3,830,175	193,989
Other cattle .....	5,477,123	168,037
Total cattle .....	9,307,298	862,026
Sheep .....	2,755,556	26,795
Swine .....	4,426,148	69,702
Poultry .....	43,133,969	47,171
Total .....		751,458

In the same year (1925) there were 3012 creameries and cheese factories and 24 condensed milk factories. The total value of all the products of the dairy factories was \$138,282,226.

#### PRELIMINARY ESTIMATE OF THE YIELD OF WHEAT, OATS, BARLEY, RYE, AND FLAX, AUGUST 31, 1926, AS COMPARED WITH THE FINAL ESTIMATE OF 1925

Field crops	1925 acres	1926 acres	1925 bush. per acre	1926 bush. per acre	1925 bush.	1926 bush.
Fall wheat .....	793,819	843,015	30.0	22.0	23,779,700	18,578,000
Spring wheat .....	21,178,913	22,009,516	18.3	17.3	387,596,000	380,430,000
All wheat .....	21,972,732	22,852,531	18.7	17.5	411,375,700	399,008,000
Oats .....	14,672,320	14,257,518	35.0	32.3	513,384,000	459,258,000
Barley .....	4,075,995	3,983,186	27.6	28.1	112,668,300	112,101,000
Fall rye .....	702,755	653,212	16.1	17.0	11,281,600	11,077,000
Spring rye .....	149,602	143,016	16.1	15.2	2,406,900	2,180,000
All rye .....	852,357	796,228	16.1	16.6	13,688,500	13,257,000
Flax .....	1,128,100	831,772	8.2	8.8	9,297,100	7,358,500

#### HARVEST FORECAST OF YIELD OF LATE SOWN CROPS, AS INDICATED BY CONDITION ON AUGUST 31, 1926, AND AS COMPARED WITH FINAL ESTIMATE OF 1925 [Note.—For condition, 100 = average yield per acre, 1916-25]

Field crops	Average yield per acre, 1916-25 bush.	Con- dition Aug. 31, 1926 p. c.	Indicated yield per acre, 1926 bush.	Area sown, 1926 acres	Final estimate of yield, 1925 bush.	Forecast of yield, 1926 bush.
Peas .....	16.8	97	16.4	145,059	3,410,700	2,380,100
Beans .....	16.1	95	14.9	71,605	1,500,700	1,067,000
Buckwheat .....	22.0	98	21.7	444,699	10,448,800	9,498,000
Mixed grains .....	84.6	95	83.7	979,881	34,301,000	33,022,000
Corn, husking .....	46.4	87	40.5	209,725	10,564,300	8,492,000
Potatoes .....	cwt. 83.2	96	79.2	544,755	42,379,900	43,130,000
Turnips, etc. ....	175.5	92	162.4	203,608	36,868,000	33,066,000
Hay and Clover .....	tons 1.48	..	1.26	10,060,477	16,141,200	12,708,000
Fodder corn .....	8.82	90	7.19	661,982	5,428,700	4,759,000
Sugar beets .....	9.67	98	9.45	47,494	458,200	449,000

NOTE: For condition, 100 = average yield per acre, 1916-1925.

## DAIRY PRODUCTION, 1925

Products	Quantity 1,000 lbs.	Value 1,000 dols.
Dairy butter .....	100,000	29,347
Creamery butter .....	169,495	63,008
Home made cheese * .....		77
Factory cheese .....	177,189	36,572
Condensed and other factory products .....		38,703
Milk used fresh * .....		64,400
Total .....		

\* Figures for 1924.

Fruit farming is of considerable importance, the chief product being apples, although peaches, pears, plums, cherries and small fruits are grown in abundance. The apple crop in 1925 totaled 3,580,770 barrels as compared with 3,375,084 barrels in 1924. The 1925 wool clip was estimated at 15,553,045 pounds valued at \$4,199,000. In the same year 27,815 acres were under tobacco (chiefly in Ontario and Quebec). The production was 29,255,000 pounds valued at \$7,002,400.

## STATISTICS OF FUR FARMS AND FUR PRODUCTION, 1925

	Number	Value
Fur farms .....	2,268	
Land and buildings .....		\$3,282,671
Fur-bearing animals on farms .....	50,536	9,793,377
Silver foxes on farms .....	41,787	9,432,097
Animals sold alive off farms .....	15,906	2,885,710
Pelts sold off farms .....	11,227	775,906
Pelts produced in Canada by hunting, trapping, and farms .....	3,820,326	15,441,564

FORESTRY. The accompanying tables supplied by the Forest Products Branch of the Dominion Bureau of Statistics give the latest available information on the various phases of forests and forest production:

## PRIMARY FOREST PRODUCTION, 1924

	Unit	Quantity	Equivalent in standing timber 1,000 cu. ft.	Value 1,000 dollars
Logs, bolts, square timber .....	M. ft. B. M.	5,019,148	1,099,193	91,314
Pulpwood .....	cords...	4,647,201	543,722	57,778
Firewood .....	do...	9,117,680	866,180	39,837
Ties, poles, mining timber, posts, etc. ....			247,495	20,583
Miscellaneous .....			51,915	4,134
Total .....			2,808,506	213,147

## MINERAL PRODUCTION, 1925, AND (ESTIMATED) 1926

Product	Quantity 1925	Value *	Quantity 1926	Value *
<b>Metals:</b>				
Gold .....	fine ounces	1,735,785	1,729,377	\$35,749,000
Silver .....	do.	20,228,988	13,971,150	13,618,000
Nickel .....	pounds..	73,857,114	15,946,672	14,401,000
Copper .....	do.	111,450,518	15,649,882	139,451,866
Lead .....	do.	253,590,578	23,127,460	281,044,548
Zinc .....	do.	109,268,511	8,328,446	147,814,074
Other metals .....	do.		4,177,862	3,087,000
Total .....		117,082,298		119,881,000
<b>Coal and other non-metallics:</b>				
Coal .....	tons...	13,184,968	49,261,951	16,105,000
Asbestos .....	do.	290,389	8,988,360	272,000
Natural gas .....	M. cubic feet	16,902,897	6,833,005	18,576,000
Gypsum .....	tons...	740,323	2,389,891	790,000
Petroleum, crude .....	barrels..	332,001	1,250,705	339,000
Salt .....	do.	233,746	1410,697	245,000
Other non-metals .....	do.		1,717,192	1,908,000
Total .....		71,851,801		83,005,000
<b>Structural materials and clay products:</b>				
Cement .....	barrels..	8,116,597	14,046,704	8,615,749
Bricks and other clay products .....			9,529,691	11,000,000
Lime .....	bushels..	10,256,542	3,387,652	4,000,000
Stone, sand, and gravel, etc. ....			10,685,187	11,800,000
Total .....		37,649,234		40,000,000
Grand total .....		226,538,338		242,886,000

\* The metals copper, lead, and silver, are, for statistical and comparative purposes, valued at the final average value of the refined metal. Pig-iron is valued at the furnace. Non-metallic products are valued at the mine or point of shipment, and structural material and clay products at the point of shipment.

Of the foregoing the principal items of export in the raw state were: Logs, bolts, square timber, 416,157 M. ft. B. M. valued at \$8,172,523; pulpwood, 1,330,250 cords valued at \$13,536,058. The estimated stand of merchantable timber in Canada in 1000 cu. ft. was:

	Saw material	Pulpwood, firewood, etc.	Total
Softwood ...	96,326,708	102,083,260	198,409,968
Hardwood ..	9,247,797	39,168,567	48,416,364
Total ...	105,574,505	141,251,827	246,826,332

## LUMBER PRODUCTION, 1924

[Statistics of the industry]

Mills in operation .....	2,761
Capital invested .....	\$177,480,064
Employees .....	35,493
Salaries and wages .....	\$ 34,783,780
Cost of materials .....	\$ 83,141,692
Value of products .....	\$141,929,559

## [Products of the industry, 1924]

Lumber .....	M. ft. B. M.	3,878,942	\$104,444,622
Pulpwood .....	cords...	814,180	11,583,293
Shingles .....	M...	3,129,501	10,406,596
Lath .....	M...	1,165,819	5,975,253
Sawn ties .....	number..	5,274,682	3,723,712
Total .....			141,929,559

The principal woods used for lumber and lath were spruce, douglas fir, and white pine, and for shingles, cedar.

MINERAL PRODUCTION. The accompanying table from the Dominion Bureau of Statistics shows the principal metals and minerals produced in 1925 and estimates for 1926 with their values:

**FISHERIES.** In 1925 the total value of the fisheries of Canada was \$47,926,802. The principal kinds of fish marketed were: Salmon, \$15,760,630; cod, \$6,232,821; lobsters, \$5,552,977; halibut, \$4,185,301; herring, \$3,117,841; whitefish, \$1,974,871; haddock, \$1,171,555; trout, \$1,097,728; pickerel, \$1,056,109; smelts, \$1,035,504; and sardines, \$1,017,206. In 1925-26 the exports were valued at \$36,792,663. The number of persons employed in 1925, including those in shore work and canneries, was 73,855. In 1925 the number of canneries in operation was 852.

**MANUFACTURES.** The accompanying table from the *Canada Year Book* for 1926 shows the number of establishments, the capital, the number of employees, and the amount of their salaries and wages, the cost of materials, and the value of products in 1924, in various groups of industries:

Group of industries	Number of establishments	Capital Dollars	Employees		Cost of materials	Value of products
			Number	Salaries and wages Dollars		
Vegetable products . . . . .	4,414	414,922,612	66,183	70,638,304	365,614,854	585,945,602
Animal products . . . . .	4,816	208,466,666	57,779	53,270,202	269,993,396	379,777,322
Textiles and textile products . . . . .	1,781	298,665,942	90,254	77,924,749	179,551,579	321,355,181
Wood and paper . . . . .	6,906	879,307,261	127,551	148,529,075	246,078,592	546,504,108
Iron and its products . . . . .	1,003	535,924,351	78,314	99,567,510	195,981,347	370,088,674
Non-ferrous metals and products . . . . .	341	114,854,971	21,670	26,118,839	42,255,294	93,223,373
Non-metallic mineral products . . . . .	1,095	235,613,111	24,186	28,559,746	61,741,225	138,573,803
Chemicals and allied products . . . . .	457	126,495,685	13,796	17,074,529	54,311,913	108,217,237
Miscellaneous industries . . . . .	1,365	725,062,861	28,770	37,201,091	22,881,481	151,368,282
<b>Total . . . . .</b>	<b>22,178</b>	<b>3,358,813,460</b>	<b>508,503</b>	<b>559,884,045</b>	<b>1,438,409,681</b>	<b>2,695,053,582</b>

**COMMERCE.** The trade by principal countries for the years ended Mar. 31, 1925 and Mar. 31, 1926, according to the condensed preliminary report on the trade of Canada, 1926, published by the Dominion Bureau of Statistics is as follows:

Of the 80 chief imports 70 showed increases in the year ended Mar. 31, 1926, and 10 showed decreases. The decreases occurred in the imports of coal, sugar, woolen goods, cotton goods, settlers' effects, raw wool, dyeing and tanning materials, molasses, clocks and watches, and fish. While some of these commodities showed decreases in value the quantities imported showed increases—notably coal, molasses and sugar, the quantities of coal increasing from 15,071,035 tons to 16,651,014 tons, molasses from 5,063,114 gallons to 6,058,389 gallons and sugar from 882,329,494 pounds to 1,174,443,304 pounds. The importer, therefore, obtained these products in the markets of the world at a lower price per unit than in the preceding year. The increases in the 70 commodities were not wholly due to higher prices, but as well to increased quantities imported, the only notable exception being

in the case of raw rubber, the average import value of which in 1925 was 28.5 cents per pound and in 1926, 68.3 cents per pound. In the case of other commodities that showed increases in value the average import value in 1926 was on the whole on a par with that for 1925, with

**TRADE OF CANADA WITH TWENTY-FIVE LEADING COUNTRIES, YEAR ENDED, MARCH 31, 1926**  
(Countries arranged in order of importance of trade)

NOTE—The figures in parentheses opposite each country indicate percentage of total imports or exports in 1925, while the sign (+) indicates that the imports or exports in 1926 were greater than in 1925.

Rank	Country	Exports (Canadian) <sup>a</sup>		Per cent of total
		1925 Value	1926 Value	
		1,000 Dols.	Dollars	
1	United Kingdom (37.0) + . . . . .	395,850	508,249,576	38 6½
2	United States (39.1) + . . . . .	417,457	474,890,028	36 1
3	Japan (2.1) + . . . . .	22,011	34,694,862	2.6½
4	Germany (2.3) + . . . . .	24,235	30,744,210	2.3½
5	China (0.7) + . . . . .	7,888	24,473,446	1.8½
6	Netherlands (1.2) + . . . . .	12,644	23,476,607	1.8½
7	Belgium (1.6) + . . . . .	16,633	22,706,945	1.7½
8	New Zealand (1.4) + . . . . .	15,080	16,561,344	1.2½
9	Australia (1.1) + . . . . .	12,037	15,436,025	1.1½
10	France (0.9) + . . . . .	10,280	13,952,262	1.0½
11	Italy (1.3) . . . . .	14,139	12,788,653	0.9½
12	Argentina (0.9) + . . . . .	10,322	12,639,706	0.9½
13	Newfoundland (1.2) . . . . .	12,701	11,277,182	0.8½
14	British South Africa (0.9) . . . . .	9,277	9,078,462	0.6½
15	Cuba (0.7) + . . . . .	7,142	8,524,713	0.6½
16	British India (0.3½) + . . . . .	4,056	7,420,708	0.5½
17	Norway (0.2) + . . . . .	2,091	6,767,887	0.5½
18	Denmark (0.4) + . . . . .	4,279	6,215,226	0.4½
19	Brazil (0.3½) + . . . . .	3,417	4,832,391	0.3½
20	Irish Free State (0.4½) + . . . . .	4,616	4,708,689	0.3½
21	Jamaica (0.3) + . . . . .	3,253	3,976,210	0.3
22	Dutch East Indies (0.1½) + . . . . .	1,474	3,881,792	0.3
23	Trinidad and Tobago (0.3½) + . . . . .	8,553	8,875,182	0.3
24	British West Indies, Other (0.2) + . . . . .	2,305	3,851,248	0.2½
25	Russia (1.1) . . . . .	11,669	3,788,266	0.2½
<b>Total 25 countries . . . . .</b>			<b>1,268,811,570</b>	<b>96.5</b>
<b>Total Exports . . . . .</b>		<b>1,069,067</b>	<b>1,315,192,791</b>	<b>100.0</b>
<b>British Empire (44.4) + . . . . .</b>		<b>475,140</b>	<b>598,593,254</b>	<b>45.5</b>
<b>Foreign countries (55.6) + . . . . .</b>		<b>593,927</b>	<b>716,599,537</b>	<b>54.5</b>

Imports for consumption \*  
1926

Rank	Country	1925 Value 1,000 Dols.	Value Dollars	Per cent of total
1	United States (84.0) +	510,003	609,825,350	65.7
2	United Kingdom (19.0) +	151,100	163,710,431	17.6
3	France (2.3) +	18,436	19,162,420	2.0½
4	Cuba (1.0) +	7,798	11,063,284	1.2
5	Germany (0.8) +	6,773	9,981,019	1.0¾
6	Japan (0.9) +	7,005	9,564,074	1.0½
7	British India (1.0½) +	8,421	9,477,453	1.0¼
8	Switzerland (1.1)	7,802	7,459,809	0.8
9	Belgium (0.6) +	5,062	6,957,668	0.7¾
10	Netherlands (0.6) +	5,077	6,854,219	0.7½
11	San Domingo (0.8½) +	2,686	6,791,339	0.7½
12	Peru (0.4½) +	3,533	5,700,109	0.6
13	Straits Settlements (0.2) +	1,693	4,674,388	0.5
14	British Guiana (0.9)	6,939	4,501,912	0.5
15	Barbados (0.9)	6,733	4,130,822	0.4½
16	Jamaica (0.4½) +	3,516	3,783,481	0.4
17	Mexico (0.3) +	2,551	3,684,460	0.4
18	Argentina (0.8)	6,263	3,411,748	0.3¾
19	Australia (0.8½) +	2,635	3,042,054	0.3¼
20	Ceylon (0.3½) +	2,730	2,747,442	0.3
21	New Zealand (0.1½) +	1,190	2,725,235	0.3
22	Italy (0.2½) +	1,926	2,596,469	0.2¾
23	Fiji (0.1) +	510	2,567,204	0.2¾
24	China (0.3) +	2,522	2,547,995	0.2¾
25	Spain (0.2¼) +	1,775	2,075,219	0.2¼
Total 25 countries		796,933	909,035,604	98.0
Total imports		796,933	927,402,732	100.0
British Empire (24.5) +		194,991	207,696,963	22.4
Foreign countries (75.5) +		601,941	719,705,769	77.6

\* Excluding coin and bullion.

the possible exception of that for hides and skins, woollens, jute cloth and certain classes of foodstuffs. Fifteen commodities imported account for about 46 per cent of Canada's imports. These articles in order of importance were: Coal, 6 per cent of the total imports; sugar, 3.5 per cent; woolen goods, 3.5 per cent; machinery, 3.4 per cent; raw rubber, 3.4 per cent; cotton goods, 3.3 per cent; crude petroleum, 3.2 per cent; raw cotton, 3.1 per cent; fruits, 3 per cent;

alcoholic beverages, 2.7 per cent; automobile parts, 2.5 per cent; iron and steel plates and sheets, 2.4 per cent; silk goods, 2.3 per cent; electric apparatus, 1.7 per cent; and automobiles, 1.7 per cent.

The 50 principal exports make up 91.8 per cent of the Dominion's exports. Of these exports 39 showed increases and 11 decreases for the year ending Mar. 31, 1926. The commodities to show decreases were: Wheat flour, raw gold,

SUMMARY OF THE TRADE OF CANADA, BY MAIN CLASSES DURING THE FISCAL YEARS ENDED  
MARCH 31, 1923-26

Classes	1923	1924	1925	1926
<i>Imports for consumption</i>				
Agricultural and vegetable products	\$161,669,784	\$186,468,685	\$173,585,839	\$203,417,431
Animals and animal products	46,736,774	45,026,734	41,491,969	49,259,558
Fibres and textile products	170,146,958	173,795,660	165,440,757	184,761,831
Wood, wood products, and paper	35,845,544	40,976,833	38,185,383	40,403,096
Iron and its products	138,724,455	173,473,503	134,684,441	181,196,800
Non-ferrous metal products	37,492,604	43,432,617	41,111,550	47,692,985
Non-metallic mineral products	139,989,012	155,899,393	131,013,294	139,033,940
Chemicals and allied products	25,793,101	26,088,041	24,760,237	28,404,276
Miscellaneous commodities	46,181,012	48,205,401	46,659,067	53,232,815
Total imports	302,579,244	393,866,867	296,932,537	392,402,732
<i>Exports (Canadian produce)</i>				
Agricultural and vegetable products	* 407,760,092	430,932,150	443,298,877	605,895,672
Animals and animal products	135,841,642	140,423,284	163,031,415	190,975,417
Fibres and textile products	7,850,843	8,055,083	9,711,720	8,940,046
Wood, wood products, and paper	228,756,205	273,354,778	253,610,024	278,674,960
Iron and its products	51,137,912	66,975,571	57,405,940	74,735,077
Non-ferrous metal products	44,358,037	65,911,171	90,370,788	97,476,270
Non-metallic mineral products	27,646,704	28,776,330	20,728,986	24,568,845
Chemicals and allied products	14,046,940	15,559,956	16,209,820	17,498,128
Miscellaneous commodities	14,053,068	17,362,733	14,699,783	16,428,376
Total Canadian exports	931,451,443	1,045,851,056	1,069,067,353	1,315,192,791
<i>Exports (foreign produce)</i>				
Agricultural and vegetable products	3,180,058	2,026,788	1,603,678	1,811,768
Animals and animal products	1,654,518	1,684,513	1,790,095	1,498,160
Fibres and textile products	1,421,780	1,555,639	2,217,273	1,320,099
Wood, wood products, and paper	409,011	498,111	419,992	391,619
Iron and its products	3,235,261	3,345,889	2,713,317	2,893,093
Non-ferrous metal products	617,461	572,560	484,726	626,856
Non-metallic mineral products	670,930	781,566	780,468	1,197,070
Chemicals and allied products	196,864	173,012	349,012	690,867
Miscellaneous commodities	2,458,511	2,824,163	1,935,729	2,914,814
Total foreign exports	13,844,394	13,412,241	12,294,290	13,344,346

pulpwood, settlers' effects, unmanufactured leather, raw hides and skins, apples, rye, condensed milk, coal, and bran, shorts and middlings. In every instance where the values in 1926 were less than in 1925, the quantities exported showed a corresponding decrease, except in the case of coal. Those commodities showing an increase in value, 1925 to 1926, showed a corresponding increase in the quantities, except in the case of silver ore, shingles, and butter. There were no abnormal changes in the average export values from 1925 to 1926 except for potatoes, the export value of which increased from about 74 cents per bushel to about \$1.32 per bushel. Ten commodities exported in 1926 accounted for over 62 per cent of the increase in the Dominion's exports. These commodities arranged in order of importance were: Wheat, 27.7 per cent of the total exports; printing paper, 7.8 per cent; wheat flour, 5.3 per cent; planks and boards, 5 per cent; wood pulp, 3.8 per cent; meats, 2.8 per cent; fish, 2.7 per cent; automobiles, 2.7 per cent; cheese, 2.5 per cent; and raw gold, 1.9 per cent.

Canada's foreign trade during the calendar year 1926, was valued at \$2,292,281,000, a figure that had been exceeded in only three previous years. Inasmuch as values had decreased since 1920 it seemed reasonably certain that the 1926 volume was the largest ever attained. The increase of \$118,980,000 over 1925 was due to the remarkable advance in imports, they having aggregated \$1,008,342,000, in contrast to \$890,193,000 during the preceding year. Imports increased principally because of the much heavier requirements of Canadian industries for raw and partly manufactured materials, but a general expansion in the purchasing power of Canadian consumers was an important factor. Domestic exports showed a slight valuation decline to \$1,268,582,000 from the 1925 total of \$1,270,987,000. The export volume was affected by the industrial difficulty in Great Britain, which country took smaller quantities of agricultural products from Canada, and by the extremely high ocean freight rates, accompanied by the diversion of vessels to the coal trade during the latter part of the year.

## TRADE OF CANADA WITH THE UNITED STATES BY MAIN CLASSES

Classes	Trade with United States			
	1923	1924	1925	1926
<i>Imports for consumption</i>				
Agricultural and vegetable products . . . . .	\$73,035,162	\$81,868,503	\$76,561,849	\$98,530,605
Animals and animal products . . . . .	34,812,367	32,357,873	28,588,214	32,996,830
Fibres and textile products . . . . .	77,283,472	74,763,836	64,002,595	79,115,464
Wood, wood products, and paper . . . . .	31,844,398	35,062,769	32,653,591	34,715,231
Iron and its products . . . . .	124,370,193	152,176,749	113,541,924	158,029,982
Non-ferrous metal products . . . . .	31,748,601	36,204,118	33,297,222	38,911,300
Non-metallic mineral products . . . . .	114,711,860	135,701,384	111,970,906	110,686,261
Chemicals and allied products . . . . .	18,414,962	18,409,812	16,366,165	18,754,942
Miscellaneous commodities . . . . .	34,768,723	34,211,403	32,797,543	38,084,735
Total imports . . . . .	540,989,738	601,256,447	509,780,009	609,825,350
Dutiable imports . . . . .	332,237,955	355,934,430	287,037,214	338,007,999
Free imports . . . . .	208,751,783	245,322,017	222,742,795	271,817,351
Per cent of free imports . . . . .	38.6	40.8	43.7	44.5
<i>Exports (Canadian produce)</i>				
Agricultural and vegetable products . . . . .	41,891,873	51,337,733	42,587,129	65,964,214
Animals and animal products . . . . .	55,225,166	55,800,064	57,833,090	63,559,623
Fibres and textile products . . . . .	4,432,767	3,948,445	4,894,415	4,621,774
Wood, wood products, and paper . . . . .	191,363,061	230,177,833	220,056,988	237,898,869
Iron and its products . . . . .	9,409,265	9,091,971	5,063,118	7,582,833
Non-ferrous metal products . . . . .	27,889,699	43,431,937	57,334,402	58,555,643
Non-metallic mineral products . . . . .	20,817,688	17,782,983	12,943,809	17,244,986
Chemical and allied products . . . . .	7,951,543	7,598,432	7,826,076	9,204,155
Miscellaneous commodities . . . . .	10,099,156	11,538,116	8,878,087	10,258,431
Total Canadian exports . . . . .	369,080,218	430,707,544	417,417,144	474,890,028
<i>Exports (foreign produce)</i>				
Agricultural and vegetable products . . . . .	2,709,751	1,601,724	1,311,566	1,523,098
Animal and animal products . . . . .	1,543,956	1,627,120	1,626,469	1,428,275
Fibres and textile products . . . . .	870,178	1,056,260	1,416,176	853,367
Wood, wood products, and paper . . . . .	348,430	453,563	856,830	354,548
Iron and its products . . . . .	2,912,806	3,110,396	2,482,894	2,646,486
Non-ferrous metal products . . . . .	553,867	494,054	425,451	510,092
Non-metallic mineral products . . . . .	366,838	472,255	346,821	572,768
Chemicals and allied products . . . . .	158,683	132,303	296,793	631,512
Miscellaneous commodities . . . . .	1,802,994	1,987,700	1,504,499	2,444,722
Total foreign exports . . . . .	11,267,503	10,935,365	9,767,499	10,964,868
<i>Excess of imports (†) or all exports (*)</i>				
Agricultural and vegetable products . . . . .	(†) 28,433,538	(†) 28,429,046	(†) 32,663,154	(†) 31,048,293
Animals and animal products . . . . .	(*) 21,956,755	(*) 25,069,311	(*) 30,871,345	(*) 31,991,068
Fibres and textile products . . . . .	(†) 71,980,527	(†) 69,759,141	(†) 57,692,004	(†) 73,640,823
Wood, wood products, and paper . . . . .	(*) 159,867,093	(*) 194,568,627	(*) 187,760,227	(*) 203,537,686
Iron and its products . . . . .	(†) 112,048,122	(†) 139,974,382	(†) 105,995,882	(†) 147,800,663
Non-ferrous metal products . . . . .	(†) 3,805,085	(†) 7,721,873	(†) 24,462,631	(†) 20,154,485
Non-metallic mineral products . . . . .	(†) 98,527,334	(†) 117,446,146	(†) 98,680,276	(†) 92,868,507
Chemical and allied products . . . . .	(†) 10,304,736	(†) 10,679,077	(†) 8,243,296	(†) 8,919,275
Miscellaneous commodities . . . . .	(†) 22,866,578	(†) 20,685,557	(†) 22,414,957	(†) 25,881,582
Net excess . . . . .	(†) 160,642,017	(†) 159,613,538	(†) 82,595,866	(†) 123,970,454

FINANCE. The accompanying table from official Canadian sources gives the main items of revenues and expenditures in recent years:

Revenue car loadings during 1926 numbered 3,258,000, as against 2,990,000 in 1925. The major increases resulted from the heavier move-

# PRINCIPAL ITEMS OF DOMINION RECEIPTS AND EXPENDITURES

	Receipts	1924-25	1925-26	Estimates 1926-27
Customs taxes .....		\$108,146,871	\$127,855,144	
Excise taxes .....		88,603,489	42,923,549	
War tax revenue .....		147,164,158	157,296,320	
Total taxes .....		293,914,518	327,575,013	
Interest on investments .....		11,332,328	8,535,086	
Post office .....		28,782,535	30,334,575	
Total revenue .....		346,834,479	380,745,506	
Debt service .....	Expenditures	135,689,298	131,575,881	\$133,764,465
Pensions .....		34,888,665	37,198,700	37,281,074
Public works .....		12,029,578	13,416,045	12,803,438
Railway and canals .....		1,996,152	2,120,223	2,389,390
Subsidies to provinces .....		12,281,891	12,375,128	12,375,158
Post office .....		29,879,802	30,499,686	31,512,174
Civil government .....		10,407,963	10,779,338	11,510,691
Total on consolidated fund .....		318,891,901	320,660,479	324,957,657
Capital expenditure .....		16,550,511	(*)	20,538,694
Total disbursements .....		351,169,803	355,186,423	345,771,351

\* Not available as yet.

Total income tax collections in Canada during the fiscal year 1925-26 were \$56,197,000, of which Montreal and Toronto alone paid \$29,412,000. Other cities in each of which more than \$1,000,000 was collected included Vancouver, Winnipeg, Ottawa, Calgary and Quebec.

Commercial failures in Canada and Newfoundland during 1926, numbering 2196 with total liabilities of \$37,083,000 were the lightest since 1920, and they compare favorably with the 1925 record of 2371 insolvencies aggregating \$45,768,000.

SHIPPING. The vessels entered and cleared at Canadian ports on inland waters between Canada and the United States were: Canadian, 26,653 of 18,654,786 tons; United States, 66,770 of 18,303,239 tons. The inland waterway system in Canada by lakes, rivers, and canals has a length of over 2700 miles. Down to 1925, \$163,787,855 had been spent on canals for construction and enlargement alone. In 1925, 31,948 vessels of 18,789,709 tons passed through the Canadian canals.

RAILWAYS. The accompanying table gives the statistics on steam railways, telegraphs and telephones in the Dominion for the calendar years 1924 and 1925:

ment of coal by 114,000 cars; of miscellaneous freight by 60,000 cars; and of merchandise by 50,000 cars. According to the *Railway Age*, there was not a great deal of new railway construction in Canada during the year. Work was proceeding on the completion of the Hudson Bay Railway, which has been demanded by the Prairie interests anxious for a short haul for export grain—this in spite of the fact that many observers expressed the opinion that the route would not be worth much, since the bay would be blocked by ice during the period of the heaviest Canadian grain movement. The Canadian roads greatly increased their purchases of new equipment in 1926 over the year previous. Locomotive orders totaled 61 as against only 10 in the preceding year; 236 passenger cars were ordered compared with 50 in 1925; and 1926 orders for freight cars reached a total of 1495, as compared with 642 in the year preceding. The roads are continually carrying on branch line construction, several hundred miles being completed during 1926. In addition the Canadian National standardized the gauge of 143 miles of line on Prince Edward Island and improved terminal facilities and provided new structures at a number of points. The Canadian

Steam railways in Canada		1924	1925
Mileage operated .....		40,061	40,352
Capital liability .....	thous. of dols.	3,413,865	3,471,081
Gross earnings .....	do.	445,924	455,297
Operating expenses .....	do.	882,484	872,150
Net earnings .....	do.	63,440	68,148
Operating ratio .....	per cent.	85.77	81.75
Freight ton-miles .....	1,000 ton-miles	30,513,819	31,966,205
Passenger miles .....	1,000 pass.-miles	2,872,884	2,910,760
Employees .....	number	169,970	166,027
Telegraph statistics		1924	1925
Pole line mileage .....	miles	54,742	52,723
Wire mileage .....	do.	268,632	284,121
Land messages sent .....	number	11,436,664	10,813,230
Cablegrams received and sent .....	do.	6,104,025	5,790,582
Gross earnings .....	dollars	10,980,020	11,520,322
Operating expenses .....	do.	9,603,620	9,768,046
Telephone statistics		1923	1924
Wire mileage .....	miles	2,574,088	2,765,722
Telephones .....	number	1,009,203	1,072,454
Telephones per 100 population .....		11.1	11.6
Cost of property .....	dollars	179,002,152	193,884,378
Revenue .....	do.	42,132,959	44,322,598

Pacific built a new \$5,000,000 pier at Vancouver, B. C.; built a new hotel at Regina, Sask., at a cost of \$2,000,000; added a new wing to its hotel at Banff, Alta., at a similar cost; rebuilt burned sections of the Chateau Frontenac at Quebec City at a cost of \$1,500,000; and undertook several important bridge renewals.

**GOVERNMENT.** Executive power is exercised in the King's name by the Governor-General of Canada, acting through a responsible ministry or cabinet. Legislative power is in a parliament of two houses: a Senate and a House of Commons, the former consisting of 96 members appointed for life and the latter of 245 members under the representation bill of 1924, elected by popular vote including woman suffrage. Women are eligible for election to parliament. The Governor-General at the beginning of the year was Lord Byng of Vimy. He was succeeded during the year by Lord Willingdon of Rotton, appointed Aug. 5, 1926. For the changes in the cabinet see paragraphs on History below.

### HISTORY

**FORMATION OF A GOVERNMENT.** As noted in the preceding YEAR BOOK, the elections held in Canada in October, 1925, resulted in no party obtaining a numerical majority. The Conservatives gained at the expense of the Liberals and Progressives, but it was questionable whether they could get enough members from the other parties to form a satisfactory government. Prime Minister King had been defeated himself for reelection, although he was later seated as a result of a by-election. The new Parliament met at Ottawa on January 7 and the balance of power was held by the Progressive group under the leadership of Robert Forke. The Governor-General's speech, according to the press, was so framed so as to include items which would be favorable to the Progressive group and thus compel it to swing its support one way or the other so that government could continue. Among the main items of the speech were advocacy of completion of the Hudson Bay Railroad, establishment of rural credits, the appointment of a tariff commission, reduction of taxation, restrictive immigration measures aimed to protect the agriculturalist, the consolidation of government departments, and the possible consolidation of the debt of the Canadian National Railways.

On January 15, when the Conservative Party demanded a vote of "no confidence" in the government the Progressive Party gave its aid to Premier W. L. Mackenzie King, and enabled him to keep a precarious control of the government. The Conservatives under the powerful leadership of Arthur Meighen, made several moves to win over the support of the Progressive group but failed each time. One of the first acts of the Parliament, and one which was to play an important part later on, was that providing for an investigation of the management of the Canadian Customs Service, which were declared to be honeycombed with corruption. Parliament adjourned on March 15.

**RESIGNATION OF THE KING MINISTRY.** On June 28, the ministry of W. L. Mackenzie King resigned office after Governor-General Byng had refused to dissolve parliament. The chief reason for the resignation was the damaging evidence which had resulted from the customs investigation mentioned above. Governor-General Byng

requested Arthur Meighen, the leader of the Conservative group, to organize a cabinet. Mr. Meighen did so, but after obtaining a vote of confidence was defeated on the first government measure placed before Parliament. The leader of the Conservative Party immediately effected the adjournment of parliament which was later dissolved by the Governor-General. The Conservative cabinet which carried on the business of government until a new parliament had been elected was composed as follows: Prime Minister and Secretary for External Affairs, Arthur Meighen; State, Sir George Perley; Finance, R. B. Bennett; Defense, Hugh Guthrie; Justice, E. L. Patenaude; Customs, H. H. Stevens; Agriculture, S. F. Tolmie; Railways, W. A. Black; Postmaster-general, R. J. Manion; Trade and Commerce, J. D. Chaplin; Labor, George B. Jones; Public Works, E. B. Ryckman; Without Portfolio, Sir Henry Drayton, Donald Sutherland, H. D. Morand, and John A. MacDonald. The general election was to be held on September 14, with the main issue according to the Liberal Party, the constitution, and on the Conservative side, the customs scandal.

**NEW GOVERNOR-GENERAL.** On October 2, Lord Willingdon, the new Governor-General for Canada, was sworn into office. Lord Byng, the retiring Governor-General, issued the following statement upon his return to England: "From now on there is going to be union between Canada and the United States, but it is only going to be a union of friendliness. Canada is not growing more American. Canada is all British. I am going to do my best now to contradict the false idea that the Dominion is breaking away from the Empire sentiment. That is the effect of extremist propaganda. Canada from coast to coast is very imperialistic. After some years of post-war chaos she is on the eve of great prosperity. You can tell that by the fact that American farmers are crossing the borders from the States and settling anew on the rich lands of the Canadian West. That is symptomatic of the whole feeling between the Dominion and her southern neighbor."

**THE ELECTIONS.** As stated above the elections for the new parliament were held on September 14. In the field there were 528 candidates for the 244 seats. Only one seat, in Manitoba, was uncontested. The Conservatives had 233 candidates in the field, the Liberals, 199, Progressives, 20, Independents, 25, Labor, 18, United Farmers of Alberta, 12, Liberal-Progressives, 21. The Liberal Party supported other contestants in 48 districts to prevent a three-cornered fight and thereby assure the election of a Conservative. Mr. King in leading the fight of the Liberals pointed out the prosperity of the country under their leadership and bitterly attacked the action of Lord Byng in refusing to grant a dissolution of Parliament to him, while he did grant one to Mr. Meighen.

In Mr. Meighen's campaign he stressed again and again the customs scandal which had been unearthed and accused King of too strong a friendship for the United States. On the tariff issue neither King nor Meighen was very definite. If either one was speaking in a protectionist district, he was protectionist, and if speaking in a free trade district, his remarks could be construed as leaning toward free trade. The campaign was sullied by the usual personal attacks on the character and habits of



the leaders of the two parties and every trick known to a political campaign was resorted to in an effort to gain the election. Campaign funds were freely raised and freely spent, with the usual charges and counter-charges against what in the United States is called "the interests."

The result of the election was an overwhelming defeat for the Conservatives and a failure on the part of the Liberals to gain an absolute numerical majority. The Liberals obtained 119 seats, Conservatives, 91, Progressives, 8, Liberal-Progressives, 11, United Farmers of Alberta, 11, Labor, 3, Independent, 2. Arthur Meighen and six of his cabinet were defeated. British Columbia, Nova Scotia, Ontario, and New Brunswick supported Meighen, but he received only one seat in the Prairie Provinces. Ten days after the election, the Meighen cabinet resigned and on September 25, the following Liberal cabinet was sworn in: Prime Minister and Minister of External Affairs, W. L. Mackenzie King; Finance, J. A. Robb; Justice, Ernest La Pointe; Railways, C. A. Dunning; Interior, Charles Stewart; Public Works, J. C. Elliot; Agriculture, W. R. Motherwell; Trade and Commerce, James Malcolm; Customs and Excises, W. D. Euler; Health, Dr. J. H. King; Immigration, Robert Forke; Postmaster-General, P. J. Veniot; Marine and Fisheries, P. J. A. Cardin; Solicitor-General, Lucien Cannon; Secretary of State, Fernand Rinfret; Labor, Peter Heenan; Without Portfolio, Senator R. Dandurand. On November 2, 14 members of the King cabinet were re-elected to parliament in accordance with the provision that makes it necessary for members appointed to the ministry to stand for re-election.

On November 10, Vincent Massey, a wealthy manufacturer, was appointed Canadian Minister to Washington. This was the first time this post has been filled.

**CANADA, UNITED CHURCH OF.** On June 10, 1925, the Congregational churches, the Methodist Church, and the Presbyterian Church in Canada united to form a single body under this designation. The final union of all Presbyterian churches in Canada had occurred in 1875 and of all Methodist churches in Canada in 1884. Negotiations looking to the union consummated in 1925 had proceeded for over 20 years, a basis of union having taken substantially its final form in 1900. Legislation ratifying the union to which the churches had agreed was sought by their highest courts and granted by the Parliament of Canada in 1924 under the title, "United Church of Canada Act." Latest statistics available, those of 1925, gave the church membership as 692,348 communicants. There were 11 conferences, 113 presbyteries, 8806 congregations with 4536 ministers and 1946 lay preachers. The church maintained 26 colleges. The official organ is the *New Outlook*, while the *United Churchman* gives special service in the Maritime Provinces. The *Record and Missionary Review* is a monthly of great value throughout the Church.

The second General Council convened in the American Church, Montreal, June 10-20, 1926, the first anniversary of the formation of The United Church of Canada. The major portion of the session was devoted to framing constitutions for the Executive Committee of the General Council; for the principal Boards, the

Board of Foreign Missions, Board of Home Missions, Board of Education, Board of Evangelism and Social Service, Board of Religious Education, and Board of Publications; and for the Committees on Finance; on Literature, General Publicity and Missionary Education; and on Maintenance and Extension Fund. Progress was reported in negotiations looking toward organic union with the Reformed Episcopal Church and the Evangelical Church, and communication with other ecclesiastical bodies in Canada was noted. The next General Council was to be held in Winnipeg, Manitoba, in September, 1928.

In October and November, the Very Rev. James Harvey, D.D., Ex-Moderator and Senior Principal Clerk of the General Assembly of the United Free Church of Scotland, made a visitation of the United Church of Canada from Newfoundland to British Columbia, speaking in the principal cities. In November the Moderator, the Rev. James Endicott, D.D., and the Editor of *The United Church Record and Missionary Review*, the Rev. W. T. Gunn, D.D., by appointment of the Church, went to India to attend celebrations of the Golden Jubilee of the Central India Mission, founded in 1876 by the Presbyterian Church in Canada and carried on since 1925 by The United Church of Canada.

In its first financial year ended Mar. 21, 1926, The United Church asked its people for \$4,000,000 for current expenses and received \$4,075,000, an amount largely exceeding the budget receipts of the Churches before union. The budget for the year 1926-27 amounted to \$3,400,000. Officers elected for 1926-28 were: Rev. James Endicott, D.D., moderator; Rev. T. Albert Moore, D.D., secretary of the General Council. The secretary's offices are 421 Wesley Buildings, Toronto 2, Ontario.

**CANALS.** Late in the year Secretary Hoover of the U. S. Department of Commerce expressed his advocacy of a vast interconnected waterway system to connect the Great Lakes with the Atlantic Ocean and to reach inland by way of numerous rivers and canals. This advocacy of the Secretary's was in rather general terms, and, while it was applied to various projects by their supporters, it seemed to deal in the main with increased facilities for transportation. Such proposals were brought up in Congress and often were advanced in the face of the opposition of the technical advisers of the Government.

Late in the year the Chief of Engineers of the United States Army submitted to the Committee on Rivers and Harbors of the U. S. House of Representatives a report on the Great-Lakes-to-Hudson Canal, in response to a request from that committee that the Board of Engineers for Rivers and Harbors extend the scope of the earlier investigation to a revision of the proposed canal across New York State, so that a canal with a depth of 30 feet might be considered in view of later evidence and estimates. Previously an adverse report had been made on a waterway for vessels of 20 to 25 feet draft, and the report of 1926 also was adverse to a 30-foot channel, the conclusion reached being that the economic benefits would not be commensurate with the cost of construction, and that the expenditure of public funds on the St. Lawrence River route would bring greater returns per dollar expended. While the route from the Great Lakes to the Hudson River was feasible from an engineering point of view and might be consid-

ered if the plan for the improvement of the St. Lawrence waterway was not carried into execution, it was believed that the deepening of the present canal and the construction of a 30-foot channel in the Hudson River were hardly worth the expenditure involved, and particularly in comparison with the cost of improving the St. Lawrence route for navigation.

The United States Corps of Engineers also opposed the canalization of the Missouri River above Kansas City, recommending the possible postponement of the complete project and the construction of satisfactory bank protection work, which would become part of the project for canalization when developed. The Chief of Engineers recommended that local interests should contribute to the bank improvement and that construction should not be undertaken until there was greater expectation of the project becoming a paying proposition.

During the year the joint Board of Engineers appointed by the Canadian and United States Governments to advise the National Committee of the two Governments in reference to the development of the St. Lawrence River made a report on this project reviewing a previous joint report of 1921 and answering various questions which were presented to them for consideration. This report discussed the various engineering features, the increased cost under modern conditions, the diversion of water and change of levels, the changes in international boundary, and similar matters. The Board recommended, in connection with the improvement of the river, a navigation route through the 183 miles of river and lake from Lake Ontario to Montreal Harbor, with a total of not more than 25 miles of restricted canal navigation and not more than nine locks. There should be but eight bridges across this channel, and power houses with an ultimate installed capacity of from 2,619,000 to 2,730,000 h.p. in the international section of the river, with a possibility of later development up to 5,000,000 h.p., which is the full power potential of the river. The Board discussed the cost of channel construction and maintenance, paying particular attention to the increase of costs required under conditions arising since the first report was presented.

**ILLINOIS WATERWAY.** The State of Illinois continued work during the year on this important link in the barge canal between the Great Lakes and the Mississippi River. This waterway was 63 miles in length from the Chicago Drainage Canal at Lockport to the Illinois River at Starved Rock. At Lockport the lock was 99 per cent completed at the end of the year, while at Starved Rock the lock was 20 per cent complete. The Marseilles lock was finished but the other two locks and the Marseilles diversion canal had not been undertaken. Contracts were let for the mitre gates for the Lockport and Marseilles locks in August, 1926, for delivery in 1927, and it was anticipated that the entire waterway would be completed by 1930. An open question at the end of the year was the provision of a nine-foot channel in the Illinois River from Starved Rock to the Mississippi River, which would be essential to the fullest realization of the project. This had not been authorized by the United States Government, which would be called upon for its construction.

**CHESAPEAKE AND DELAWARE CANAL.** At the end of the year the conversion of the Chesapeake

and Delaware Canal to a sea-level waterway was practically finished, the work having been carried on with but slight interruption to navigation. This involved extensive dredging operations which had been delayed by the sinking of a large dredge intended for service in the canal while en route to the project.

**WELLAND SHIP CANAL.** The last contracts for the remaining sections of the Welland Ship Canal between Lake Erie and Lake Ontario were let in 1926, and at the end of the year the whole project was under construction. It was expected that the harbor works at Port Weller and Locks Numbers 1, 2, and 3 would be completed in 1927. Work on the canal prism and on Locks Numbers 4, 5, 6, and 7 up to the top of the escarpment was about 75 per cent complete, with the lock work itself about 90 per cent complete at the end of the year. South from the flight of locks some portions of the canal were entirely finished and other sections were about 40 per cent complete. At the Port Colborne end, work was about 62 per cent complete, while at the various crossings the bridge work was advancing satisfactorily. In 1926 contracts were let for the construction of lock gates and it was expected that the entire canal would be ready for use on the opening of navigation in 1930. The total cost of the improvement of the Welland Canal was estimated at \$115,000,000. Up to the end of 1926, \$72,300,000 had been expended.

**MARSEILLES-RHÔNE CANAL.** This project, which involved the large Rove Tunnel, was completed during the year and made it possible for river traffic originating at Lyons and other interior points in France to pass from the Rhône River direct to Marseilles without the twenty-five mile trip into the Mediterranean waters to pass the cape west of the city. This canal and tunnel have been referred to in previous issues of the YEAR BOOK: the tunnel has a square invert, 59 feet wide and 15 feet deep with a semi-circular arch of 41 feet radius, which when excavated gave a section 79 feet wide and 50 feet high. The tunnel was  $4\frac{1}{2}$  miles long, passing through a mountain ridge north of the city, and had a water depth of about 10 feet.

See PANAMA CANAL; SAULT STE. MARIE, CANALS AT; SUEZ CANAL.

**CANARY ISLANDS.** A group of small islands off the northwest coast of Africa, belonging to Spain. Area, 2807 square miles; population, Jan. 1, 1925, estimated at 498,516. The capital is Santa Cruz de Teneriffe, with an estimated population in 1924 of 78,158. The next largest city is Las Palmas, with a population of 67,122 in 1920. The University of Seville maintains an educational establishment in the Canaries and is in charge of higher education. There is a regular steamship communication with Spain. The islands are under the administration of continental Spain through a local governor.

**CANCER.** It has now become possible to form some idea of the place to be occupied in the near future by the Blair Bell lead treatment to which reference was made in the YEAR BOOK for 1925. A summary of the subject by Professor F. C. Wood may be found in the *Journal of the American Medical Association* for September 4. The principle involved is by no means new, for it has long been observed that workers in lead appear to be free from cancer and the use of lead as an abortifacient indicates that it has a

selective hostile action on the embryo (embryonal cells have a similarity to cancer cells). As long ago as 1883 Nüssbaum, a German surgeon, injected lead salts into malignant tumors with benefit. Dr. Bell himself discovered many years ago that lead salts have a selective action on the product of conception in animals although he concluded that this action was exerted specially on the trophoblastic cells of the fertilized ovum which are not an integral part of the embryo but show pronounced analogies with cancer cells.

Since 1904 colloidal suspensions of various metals have been tested extensively on cancer but lead was not included among them, and it was only after Bell found that the crystalline salts of that metal were too dangerous for experimentation on human beings that he made trial of colloidal lead, about 1920. Generally speaking, colloidal metals act rather because of their physical state, as colloids, than from any specific property, but although the action differs some of the colloidal metals including lead have been found to be injurious unless given with care and under constant supervision.

As Dr. Bell is an operating surgeon, he has employed the lead treatment only in inoperable cases and does not use it to the exclusion of radiation but rather as a synergist of the latter. Even in inoperable cancer he performs partial excision if the growth is large. In other words, there is thus far no exclusive lead treatment although there may be at some future time.

The cases for the use of lead have been selected with great care and patients with damaged vital organs are excluded from treatment. Those treated are kept under strict hospital control with daily examinations of blood and urine. It has been found best to give rather large and well spaced injections, for small and repeated doses are not free from danger. Thus far Dr. Bell had treated 227 inoperable cases, all naturally with hopeless outlook and of this number 50 have survived from one to five years with the disease in arrest. While it would be premature to claim a radical advance, pathologists like Wood and the late Adami (q.v.) have pronounced the method sound in theory and promising in clinical results.

The rank and file of the medical profession, as well as the reading public, have been impressed with the silence which has followed the announcement of the Gye-Barnard discoveries in respect to the causation and possible rational treatment of cancer. This silence is only apparent, for there has been great activity in the study of Rous fowl sarcoma, the form of growth investigated especially by Gye and Barnard. According to an item in the public press Peyton Rous was to coöperate with the two British savants in a future research of the tumor which bears his name. In the *Lancet* for October 9, was to be found the report of Mackenzie and Illingworth on some research undertaken at Edinburgh University, which in essentials appears to bear out the conclusions of Gye. In the fluid portion of a Rous sarcoma culture were found two distinct principles, the pathogenic action of each being inert in inoculation experiments when taken singly. If the culture fluid contained both of these principles the fowls could be successfully inoculated. Little is known of the nature of either principle. For convenience one was called the "virus" and the other the "specific

factor." The virus is readily destroyed by chloroform while the specific is not. There is some evidence that other tissue fluids contain substances which can substitute for the virus in the inoculation experiments.

**CANNON, JOSEPH GURNEY.** Former United States congressman and for many years speaker of the House of Representatives, died at Danville, Ill., November 13. He was born at Guilford, N. C. May 7, 1836, and in 1858 was admitted to the bar in Illinois. From 1861-68 he was State's attorney in the 27th Judicial District of Illinois, for Vermilion County, and in 1873 he was elected as representative to the 43d Congress, serving continuously until 1891. In 1893 he was again elected from the 12th Illinois District serving from the 53d to 57th Congresses, and from the 18th District in the 58th to the 62nd Congresses, 1903-13, and in the 64th to the 66th Congresses, 1915-21. In 1890 along with Speaker Reed and Representative McKinley he drew up the "Reed rules" of the House which at the time aroused considerable discussion. He was chairman of the committee on appropriations in the 55th and 56th Congresses and in the 58th Congress was elected speaker, serving in this office until 1911, or through four Congresses. In that year Champ Clark, Democrat, succeeded him as speaker and in the following November, Mr. Cannon failed of reelection. He was again elected to Congress in 1915, retiring on Mar. 4, 1923, after serving for 46 years, during which period he was four times speaker of the House. In 1908 he received 58 votes for the presidential nomination at the Republican Convention. Speaker Cannon represented the old school of the Republican Party where party discipline prevailed and as speaker he ruled the House so as to secure party legislation, but with fairness to the minority. He had a dry fund of humor and was highly esteemed both in Washington and among his constituents.

**CANTLIE, SIR JAMES.** British physician and founder and first president of the Royal Society of Tropical Medicine, died at London, May 28. He was born at Keithmore, Dufftown, Banffshire, Scotland, January 17, 1851, and was educated at Milne's Institution, Aberdeen University, and Charing Cross Hospital, London, where he went to finish his medical education. In 1872 he was made demonstrator of anatomy at Charing Cross Hospital and in 1877 assistant surgeon, being appointed surgeon in 1887. He served as examiner for the University of Aberdeen, and went to Egypt with a cholera expedition in 1883. He went to China in 1887 spending nine years in that country and serving as dean of the College of Medicine for Chinese, 1889-96. His experiences in China brought him into contact with the diplomatic life of that country and he made many important friends. On his return to London he served as plague officer for the London County Council, and as consulting surgeon for the London, North Eastern Railway Company. From an early time he was interested in Red Cross work and at one time was a member of the Council of the Red Cross Society. He was a fellow of the Royal College of Surgeons and in 1918, was created K.C.B.E. (Knight Commander, Order of the British Empire); in 1921 he founded the Royal Society of Tropical Medicine and Hygiene of which he served as president for three years. Sir James was founder

and co-editor of the *Journal of Tropical Medicine*, and was consulting surgeon to the Seaman's Hospital Society. In October, 1896 when Sun Yat-sen, a refugee in London, was made a prisoner in the Chinese Legation, Cantlie exerted himself so that the Foreign Office intervened and secured his release. He was the author of several works including: *Naked Eye Anatomy*; *Beri-beri*; *Tropical Surgery*; *Gould and Warren's Surgery*; *Tropical Diseases*; *Allchin's Medicine*; *Plague*; *Degeneration amongst Londoners* (1885); *Physical Efficiency* (1906); and various sections in *Quain's Dictionary*; *Heath's Dictionary*; and *Treves' Surgery*.

**CAPE COLONY.** See CAPE OF GOOD HOPE PROVINCE.

**CAPE OF GOOD HOPE PROVINCE.** One of the four original provinces of the Union of South Africa; the southernmost province of the Union; formerly known as Cape Colony or the Colony of the Cape of Good Hope. Area, 276,968 square miles; population at the census of 1921, 2,782,719, of whom only 650,609 were European. The population at the census of 1911 was 2,564,965. The chief towns with their white population in 1921 are: Cape Town, 113,302; Kimberley, 18,288; Port Elizabeth, 25,982; East London, 20,374. The movement of population in 1924, so far as registered, was: Births, 56,324; deaths, 34,002; marriages, 14,268. In 1925 there were 123 local school districts. In 1923 there were 4419 aided schools with 137,723 European pupils, 167,861 non-European pupils, and 19,952 teachers. The trade between the province and the United Kingdom in 1925 was: imports into the United Kingdom from the province, £16,587,831; exports from the United Kingdom into the province, £13,238,168. The chief exports to the United Kingdom were wool, mohair, hides and skins, corn, and feathers; the chief imports from the United Kingdom were cotton and woollen goods, machinery, iron and steel goods, and paper. The administrator of the province in 1926 was Sir Frederic de Waal.

**CAPE VERDE, vûrd, ISLANDS.** A group of fourteen islands off the western coast of Africa belonging to Portugal. Area, 1480 square miles; population at the census of Dec. 31, 1922, 149,793, of whom 69,001 were males. The chief products are coffee, medicinal substances, hides, and millet. A small military force is maintained on the islands. The estimated public revenue in 1924 was 17,519,538 escudos and the expenditure, 17,505,454 escudos. Imports in 1924 amounted to 61,570,808 escudos and exports, 49,192,929 escudos. The chief port is Bissau. The administration is in the hands of a governor whose seat is at Praia, the capital.

**CARHART, DANIEL.** American civil engineer and educator, died at Pittsburgh, December 8. He was born in Clinton, N. J., Jan. 28, 1839, and after graduating in the civil engineering course from the Polytechnic College of Pennsylvania in 1859, practiced civil engineering until 1868 when he became assistant professor in the Polytechnic College of Pennsylvania, serving in that capacity and as professor until 1878. In 1882 he joined the faculty of the Western University of Pennsylvania, which later became the University of Pittsburgh, as professor of mathematics and civil engineering, being made dean of the collegiate and engineering departments in 1892. He acted in this capacity until 1908, when he retired as emeritus professor of

civil engineering. He was the author of several text books including: *Plane Surveying* (1888 and 1902) and *Field Book for Civil Engineers* (1893 and 1902).

**CARINTHIA.** Since the downfall of the Austro-Hungarian Empire a province of the new republic of Austria; formerly a crownland of the Dual Monarchy. Area, 3680 square miles; population at the census of 1923, 370,748, as compared with 396,200 in 1910. Carinthia, in 1923, had 5.67 per cent of the total population of Austria. Capital, Klagenfurt, with a population in 1923 of 27,423.

**CARLISLE, kâr-lil', ALEXANDER MONTGOMERY.** Irish statesman, shipbuilder, and engineer, died at London, March 5. He was born at Ballymena, County Antrim, Ireland, July 8, 1854, and was educated at the Royal Academical Institution at Belfast of which his father was head master. When 16 years of age he joined the Harland and Wolff shipbuilding works as an apprentice, and rose through successive positions to general manager and chairman of the managing directors from which position he retired in 1910. In 1906 he contested West Belfast as a Liberal, but received an insignificant vote, and in 1907 became an Irish Privy Councillor. On August 9, 1920 he stood on the steps of the throne, to which he had access as a Privy Councillor, after the motion for the second reading of the Restoration of Order in Ireland Bill, and dramatically uttered the words: "My lords, if you pass this Bill you may kill England, not Ireland." This breach of order was formally noted by the House of Lords and an opportunity to explain or apologize was given to Mr. Carlisle, but he felt unable to modify his position and accordingly the privilege of admission to the steps of the throne was withdrawn from him. He was one of the Merchant Shipping and Advisory Commission in making report to the Board of Trade on life saving appliances in 1911, and at various times advised the Admiralty on the organization of the Royal Corps of Constructors and other questions.

**CARNEGIE CORPORATION OF NEW YORK.** Founded by Andrew Carnegie, and chartered under the laws of the State of New York, June 9, 1911, this corporation was formed for the purpose of promoting "the advancement and diffusion of knowledge and understanding among the people of the United States." The original endowment was \$125,000,000, an amount to be somewhat increased upon the final settlement of Mr. Carnegie's estate. The income of this principal fund is applicable only within the territorial limits of the United States, but the Corporation holds also a special fund of \$10,000,000, of which the income is applicable in "Canada and the British colonies." The programme of the Corporation is chiefly concerned with library service, the place of the arts in American life, adult education, scientific research, and educational studies. Although the Carnegie Corporation is an educational foundation, it is not an operating agency, and its activities are limited to financial coöperation with existing institutions and associations.

The grants voted by the Corporation during the fiscal year 1925-26 amounted to \$6,016,500. There were 428 applications acted upon, 79 were granted, 4 were referred to other agencies, and 345 were declined. In addition, on the initiative of the Corporation, twenty allocations of college

arts teaching equipment were made and provision for twenty-seven arts scholarships was voted. The total amount of the grants was \$6,016,500, distributed as follows: library service, \$4,559,500; fine arts, \$637,000; education studies, research, and publications, \$372,000; adult education, \$342,000; miscellaneous, \$106,000.

The outstanding event of the year 1925-26 was the adoption of a ten year programme in library service, based upon a study of several years and looking forward to the following activities: the continued support and the ultimate endowment of certain existing library schools; the establishment, support, and ultimate endowment, to the extent of \$1,000,000, of a graduate library school of a new type at the University of Chicago; the completion of the fiftieth anniversary programme of the American Library Association and the eventual collection of an endowment fund of \$1,000,000 for the professional services of this association to the libraries of the country, and particularly to the smaller libraries in which Andrew Carnegie manifested during his lifetime so keen and generous an interest. Another event of primary importance was the formation of the American Association for Adult Education, (q.v.), which resulted from the basic studies and general survey made by the Carnegie Corporation in the field of education for adults.

In the field of Fine Arts, in which the Corporation had become interested, sixty-four colleges and universities were benefited by gifts of equipment or by grants for endowment, maintenance, or research, or by opportunities offered to individuals for further training. On the advice of the Fine Arts advisory group, 18 men and 9 women, from 16 different colleges, in all parts of the country, were selected to receive grants for graduate study ranging from \$1200 to \$2000. Twenty sets of teaching collections in the arts were brought together and offered to and accepted by colleges and universities. Each set of material consisted of about 1800 photographic reproductions of architecture, sculpture, and painting; two small collections of original material; a collection of books, about 1400 volumes in all; an annotated catalogue. It was hoped by this activity in the Fine Arts to counteract to some extent the shortage in adequately prepared teachers of art, and the inadequacy of teaching material.

The Corporation continued to support various scientific projects such as research in purification of insulin, investigation of high frequency rays of cosmic origin, coöperative research in pyorrhea and otosclerosis, and study of the susceptibility to infectious diseases. Various studies conducted by the Society for the Promotion of Engineering Education, the Modern Language Association, the Institute of Economics, and the American Law Institute were continued through the year.

The Trustees of the Corporation were: James Bertram, Nicholas Murray Butler, Louise M. Carnegie, John J. Carty, Samuel Harden Church, Robert A. Franks, William J. Holland, Frederick P. Keppel, Russell C. Leffingwell, John C. Merriam, John A. Poynton, Henry S. Pritchett, and Elihu Root. Officers of Administration: Elihu Root, chairman of the board; Robert A. Franks, vice-chairman and treasurer; Frederick P. Keppel, president; James Bertram, secretary; and Robert M. Lester, assistant to the president.

Headquarters were located at 522 Fifth Avenue, New York City.

**CARNEGIE INSTITUTE.** See ART EXHIBITIONS.

**CARNEGIE INSTITUTE OF TECHNOLOGY.** A non-sectarian institution for technical education at Schenley Park, Pittsburgh, Pa.; founded in 1900. The enrollment for the autumn of 1926 was 5653, including 2300 registered in the regular day courses, and 3353 in the evening courses. For the summer session 500 students were registered. The faculty numbered 299, of whom 231 were on full time, and 68 on part time. The endowment of the institution was \$15,382,752.29, and the annual income \$772,102.84. The institute has a campus branch of the Carnegie Library of Pittsburgh which has 450,000 volumes. President, Thomas Stockham Baker, Ph.D., LL.D.

**CARNEGIE INSTITUTION OF WASHINGTON.** An organization founded in 1902 to encourage broad and liberal investigation, research, and discovery, and the application of knowledge to the improvement of mankind. The results of its investigations are made known through the scientific journals, the institution's *Year Book*, a series of monographs which it issues, and other regularly established channels. During the year, the publication of 13 volumes in this series was authorized, at an estimated cost of \$54,300, and twelve additional volumes were in press in October, 1926. The *Year Book* includes statements relating to current advance of researches and reports of progress of the following established departments of research: embryology, genetics, geophysical laboratory, historical research, meridian astrometry, Mount Wilson Observatory, nutrition laboratory, laboratory for plant physiology, and terrestrial magnetism.

During the year the Department of Embryology made significant progress in the study of human embryology and in the transformation of the white blood cells, which were found to be concerned in the origin of certain types of malignant tumors. The research of the Department of Genetics made it increasingly clear that the endocrine glands are among the most important agents in the development of the individual. The Department of Nutrition made important researches in the relation of the thyroid glands to the metabolic processes. The Department of Terrestrial Magnetism made a type of attack which opened many new possibilities for interpretation of the whole group of phenomena toward which its activities are directed. The institution gave financial support to the work of Dr. Millikan of the California Institute of Technology on fundamental problems concerning the structure of matter.

Among the advances of the year at Mount Wilson were Dr. King's work on classification of spectral lines, the complete analysis of a complex spectrum by Henry Norris Russell, the measurements of ultra-violet solar radiation by Mr. Pettit, the refinement of measurement of the velocity of light by Dr. Michelson, the advance of knowledge of the universe of spiral nebulae by Dr. Hubble, and the study of changing conditions on the face of the sun made possible by the new spectrohelioscope designed by Dr. Hale. Earthquake investigation, in operation through various institutions on the Pacific Coast, under the direction and support of the Carnegie

Institution, entered a period of intensive study through utilization of new instruments, new stations, and the support of investigational effort from many fields of study concerned with the physics of the earth's crust.

The group of lectures upon outstanding attainment in research in the Carnegie Institution was continued through the year. The plan for protecting results of research in the interest of the public advanced to the stage of full application through licensing of approved agencies to produce appliances which have been patented. Patents were granted during the year on: an apparatus for measuring oxygen consumption in the study of metabolism, developed by F. G. Benedict, Director of the Nutrition Laboratory, and Mrs. Benedict; on improvements in seismometers invented by John A. Anderson, of the Mt. Wilson Observatory; on an apparatus for the measurement of variation in the force of gravity, developed by F. E. Wright of the Geophysical Laboratory; on improvements in micro-furnaces made by H. S. Roberts of the Geophysical Laboratory; and on a tree-growth measuring instrument completed by D. T. MacDougal, Director of the Laboratory for Plant Physiology.

Receipts for the year amounted to \$1,582,917.03, and expenditures to \$1,644,718.07. Property was valued at \$3,484,356.50. Officers for 1926 were: president, John C. Merriam; Board of Trustees: chairman, Elihu Root, vice-chairman, Charles D. Walcott, secretary, W. Cameron Forbes. Elihu Root was chairman of the Executive Committee, Henry S. Pritchett of the Finance Committee, and R. S. Brookings of the Auditing Committee. Directors of departments were: embryology, George L. Streeter; genetics, Charles B. Davenport; geophysical laboratory, Arthur L. Day; historical research, J. Franklin Jameson; meridian astrometry, Benjamin Boss; Mt. Wilson Observatory, Walter S. Adams, with George E. Hale as honorary director; nutrition laboratory, Francis G. Benedict; plant physiology, Daniel T. MacDougal; terrestrial magnetism, Louis A. Bauer.

**CAROLINE ISLANDS.** See GERMAN NEW GUINEA.

#### CASE SCHOOL OF APPLIED SCIENCE.

An engineering college at Cleveland, Ohio; founded in 1881. In the autumn of 1926 the enrollment was 563 students. The faculty numbered 62. The productive funds of the school amounted to \$3,500,000, and the income for the year to \$322,298. There were 24,000 volumes in the library. During the year gifts to the amount of \$1,670,000 were received. A new Mechanical Engineering Laboratory expected to cost, with equipment, about \$500,000, was begun. President, Charles Sumner Howe, Ph. D., D.Sc., LL.D.

**CASLIN, SIR MICHAEL PATRICK.** Prime Minister of Newfoundland in 1919, died at St. John's, N.F., August 30. He was born at Cape Broyle, N.F., September 29, 1864, and was educated at St. Bonaventure's College at St. John's. He engaged in business as a fishery merchant at Cape Broyle in 1885, continuing his career, though entering political life in 1893 at the time of the Colonial General Election. Being selected a member of the House of Assembly for Ferryland district, he served continuously from that time until 1923. He was originally a Liberal, remaining with that party until 1905, when he joined the Independent party in the Assembly, and in 1908 he united with Sir Edward Morris. From 1909-

19 he was Minister of Finance and Customs and in the latter year became Prime Minister, succeeding Sir William Lloyd. From 1920-23 he was the leader of the opposition. In 1910 he represented Newfoundland before the Imperial Royal Commission on West India trade at Jamaica, and in 1918 was acting Prime Minister, acting Minister of Militia, and acting Minister of Shipping. During the War, as Minister of Finance, he raised the first successful Victory Loan in the Colony and served as vice-chairman of the Newfoundland Patriotic Fund and of the War Finance Committee. In 1918 he was created K.C.B.E. (Knight Commander Order of the British Empire).

**CASSATT, MARY.** An American figure and portrait painter, died at Meunil-Theribus, Oise, near Paris, France, June 14. She was born at Pittsburgh, Pa., in 1845, and after a brief course at the Pennsylvania Academy of Fine Arts at Philadelphia, went to Europe in 1875 to take up her studies in the museums and galleries where the works of the great masters were hung. Her first picture, painted in 1872, representing two young women at a carnival throwing confetti, was accepted at the Salon as were other pictures until 1877, when the work submitted was refused. She then was invited by Degas to exhibit with a group of impressionists studying more or less informally with him, and allied herself with this school, making her permanent residence in Paris in 1879. She also came under the influence of Renoir.

Miss Cassatt devoted herself almost exclusively to women and children, particularly the mother and child in the home environment, and her children are represented with truth, originality, and a keenness of observation, but without prettiness. Her best known paintings are: "The Bath," "Breakfast in Bed," "Mother's Caress," "Children Playing with a Cat," "In the Garden," "At the Mirror," "Maternity," "Child Playing with a Dog," "Child's Toilet," and "In the Box." At the Chicago Exposition in 1893 she painted a mural decoration, "Modern Women," for the Woman's Building. Miss Cassatt's work was found in many American galleries including the Wiltach collection in Memorial Hall, Fairmount Park, Philadelphia, Pa.; "The Mother and Child" in the Metropolitan Museum of Art; and the Corcoran Art Gallery, Washington, D. C.; the Fine Arts in Boston, Mass.; and art museums in Chicago, Detroit and Providence. "The Young Mother," a pastel, was acquired by the French Government for the Luxembourg collection. Special exhibitions of Miss Cassatt's work were held in Paris, and in 1898 in New York, and in 1909 in New York and Boston. Well-known also are her tinted etchings of which the series of ten entitled "Maternity" achieved considerable reputation. In 1924 Miss Cassatt was threatened with total blindness.

**CASUALTY INSURANCE.** See INSURANCE.

**CATHOLIC CHURCH.** See ROMAN CATHOLIC CHURCH.

#### CATHOLIC UNIVERSITY OF AMERICA.

An institution of higher education at Washington, D. C.; founded in 1887. It includes graduate schools of sciences, law, and philosophy. Affiliated with it are the Catholic Sisters College for the training of teachers, Trinity College for young women, and the houses of study of 20 religious orders. The enrollment for the autumn of 1926 was 868, distributed as follows: school of theol-

ogy, 55; school of canon law, 56; school of law, 24; school of philosophy, 431; school of letters, 60; school of sciences, 242. In the 1926 summer session there was an enrollment of 405, not including the summer school at San Francisco, California, under the auspices of the University, and in which approximately 300 students were registered. In the autumn of 1926 the faculty had 116 members, of whom 30 had the rank of professor, one promotion having been made from the rank of associate professor during the year. The productive funds amounted to \$2,903,499.48, and the income for the year to \$662,726.06. Among the important gifts of the year was an additional \$250,000 from John K. Mullen of Denver, toward the erection of the John K. Mullen Memorial Library, under construction during the year and expected to be completed by the fall of 1927, and an additional \$60,000 from the hierarchy of the United States for the erection of a home for ecclesiastical professors. The library contained 262,000 volumes. Rector, Rt. Rev. Thomas J. Shahan, S.T.D., J.U.L., LL.D., Titular Bishop of Germanicopolis.

**CATTLE.** See LIVESTOCK; VETERINARY MEDICINE.

**CATTLE TICK ERADICATION.** See VETERINARY MEDICINE.

**CAUCASUS,** *kā'kū-sūs*. A term applied to the indefinite region in southeastern Europe, comprising the isthmus which separates the Sea of Azov and the Black Sea from the Caspian Sea; formerly a government of the Russian Empire. It was divided into two districts of Trans-Caucasia and Cis-Caucasia, of which the former was divided among the three republics of Armenia, Georgia, and Azerbaijan (*qq.v.*). These afterwards separated and were respectively incorporated under the constitution of 1923, in the Union of Soviet Republics, and are now known as the Transcaucasian Federation of Soviet Republics.

**CAVALRY.** See MILITARY PROGRESS.

**CELEBRATIONS.** Those events in the United States during the year that come under this heading, for the most part have had to do with the War of the Revolution and were celebrated in the usual conventional method with music and addresses pertinent to the occasion. Among the more important of these celebrations were the following:

*March 25.* The 292d anniversary of the landing of the Catholic pilgrims sent by Cecilius Calvert, second Lord Baltimore, was celebrated under the auspices of the Calvert Associates in Baltimore, Md., New York City, Norwalk, Conn., and Chicago, Ill. The major celebration was held in Baltimore, where Sir Esme Howard and Governor Ritchie were the principal speakers, while in New York City David I. Walsh, Senator elect from Massachusetts, was the speaker. It was proposed to hold a Nation-wide celebration of this event in 1934.

*April 17.* The 100th anniversary of the granting of a charter to the Mohawk and Hudson Railroad, the first unit in the New York Central System, was celebrated by the unveiling of two bronze tablets, one in Albany, N. Y., and the other in Schenectady, N. Y. These tablets which were identical showed at the top a bas-relief of the "De Witt Clinton" and at the bottom a train of to-day. A feature of the celebration was a pageant of locomotives consisting of ten power units led by the diminutive De Witt Clinton

and its train of yellow stage-coach model cars. At the throttle of the Clinton, clad in garments that were the style a century ago, was one of the oldest engineers in the service and with him was the oldest passenger conductor. Gayly attired women wearing gowns of that era, and their escorts, occupied the tops and the interiors of the coaches. Behind this train, which first ran in 1831, were other locomotives, including the famous "999," which pulled the Empire State Express at 112½ miles an hour in 1893. The last unit in the pageant was the giant Mohawk locomotive, just out of the shops at Schenectady, weighing 181 tons.

*May 23.* The tercentenary of the purchase of Manhattan Island from the Indians by Peter Minuit for \$24 was celebrated in New York City by a pageant illustrative of that event. It was conducted under the auspices of the Greenwich Village Historical Society and most of the participants were descendants of Hollanders and American Indians. An exhibition to show the progress and history of New York City was held in the Grand Central Palace.

*June 12.* The sesqui-centennial of the adoption of George Mason's famous "Declaration of Rights" by the Fifth Revolutionary Convention of the Colony, which was held in the old "Capitol" Building May 6 to July 5, 1776 was celebrated on June 12 in Williamsburg, Va. The original copy of this fundamental instrument of government, generally known as the "Bill of Rights" was placed in the State library in 1844 by one of Mason's descendants and was exhibited. The exercises included a re-enactment in colonial costumes of the proceedings of the convention in the chamber of the House of Burgesses which culminated in the adoption of this famous document. This feature was quite realistic and accompanied with more or less color and pageantry. The chief speaker was Dean Roscoe Pound of the Harvard Law School.

*June 15.* A pageant was enacted at Valley Forge, Pa., showing the evacuation of the encampments there by the ragged heroes of the Continental Army. It was participated in by 56 ancient commands from the 13 original states dressed in the bright colored uniforms of Colonial days.

*June 27-29.* The 150th anniversary of the battle of Fort Moultrie was celebrated in Charleston, S. C., and a special feature of the event was a tribute to Sergeant Jasper, whose monument is on the Battery looking out toward Fort Moultrie.

*June 28.* The 150th anniversary of American independence was celebrated in New York City, with a parade and a visit to St. Ann's Episcopal Church at 140th Street, where the body of Lewis Morris, one of the signers of the Declaration of Independence, is buried.

*June 28-July 5.* In accordance with a Commission appointed for the purpose of observing the sesqui-centennial of the Declaration of Independence and the centenary of the death of Thomas Jefferson a meeting was held in the White House in Washington, D. C., on May 13, which was presided over by President Coolidge, and the following plan was adopted: Monday, June 28, to be known as "Patriots' Pledge of Faith" in honor of the 150th anniversary of the day the Declaration, drafted by and in the handwriting of Thomas Jefferson, was first presented to the Continental Congress. On



that day it was proposed to have a ceremonial throughout the country to be known as the "Echo of the Liberty Bell." At 11 minutes after 11 o'clock on the morning of that day a bell was to be rung by the President of the United States in Washington. At the same time each governor and mayor, in his respective State or city, to ring a bell, and the mayor of Philadelphia to ring the Liberty Bell. This to be the signal for the ringing of bells of schools and churches everywhere throughout the country as the echo of the Liberty Bell. This ceremony to be immediately followed by a salute to the American flag, and every man, woman, and child afforded the opportunity to pronounce the official patriot's pledge of faith. Tuesday, June 29, to be known as Universal Education day in honor of the great system of free education which Thomas Jefferson aided in establishing. Wednesday to be Founders' day, Thursday Greater America day, in honor of the Louisiana purchase by Jefferson; Friday to be Signers' day in honor of the signers of the Declaration, and Saturday to be Monticello day, in honor of the establishment of Monticello, the home of Jefferson, as a National memorial to the author of the Declaration of Independence and as a patriotic shrine for the children of the United States. Sunday, July 4, to be observed as Jefferson Centennial day in honor of the one hundredth anniversary of the death of Thomas Jefferson, and Monday, July 5, to be celebrated throughout the land as Sesqui-centennial Independence day, marking the one hundred and fiftieth birthday of our Nation.

*July 4-10.* The 300th anniversary of the founding of the city of Salem, Mass., was celebrated during the entire week. A parade of 11,000 persons was reviewed by Vice-President Dawes who was the speaker at the anniversary dinner held in the State Armory building. Troops from Camp Devens and sailors from the three warships in Salem harbor marched in the parade. A band concert and fireworks concluded the festivities.

*July 4-8.* Patriotic services were held in Schuylerville, N. Y., commemorating the surrender of Burgoyne's forces to the Continental Army. Although the 150th anniversary of the surrender does not occur until 1927, this preliminary event was given this year and consisted largely of a historic pageant—"The Surrender of Burgoyne." Father Isaac Jogues, the intrepid Jesuit missionary who was the first white man to see Lake George and Saratoga Lake, was impersonated; Bartel Vrooman, builder of the first fort along the Hudson, reappeared; the struggles of the early settlers, beset by hostile Indians, were depicted; and finally the battle and the surrender were recreated, almost within a stone's throw of the original scene.

*July 5.* The 100th anniversary of the birth of Stephen C. Foster, the most noted of America's folk song writers, was celebrated in Pittsburgh, Pa. The composer of "My Old Kentucky Home," "Old Black Joe" and other famous songs was born in Lawrenceville, a suburb of Pittsburgh, one hundred years ago on July 4, but owing to protests by the clergy against holding it on Sunday, the celebration was held a day later in Schenley Park. The Pittsburgh Symphony Orchestra, assisted by a chorus, played the better

known of Foster's melodies, which were also broadcast by radio.

*July 9.* The 150th anniversary of the birth of the State of New York was celebrated in White Plains, N. Y., by a pageant depicting scenes attendant upon the meeting on July 9, 1770, in the old courthouse in White Plains, when the provincial congress of the Colony of New York broke away from the British Crown, ratified the Declaration of Independence, and swore allegiance to the United States of America. The pageant was produced under the auspices of the University of the State of New York and the Westchester County Historical Society, in the armory, on the site of the old courthouse which was burned to keep it from falling into the hands of the British.

*August 1.* The 50th anniversary of the admission of Colorado (sometimes called the "Centennial State") as the 38th state to be admitted into the Union, was held in Denver. The chief speaker of the occasion was Vice-President Dawes.

*August 2.* A bronze tablet in honor of New York's signers of the Declaration of Independence: William Floyd, Philip Livingston, Francis Lewis, and Lewis Morris, was unveiled in the Capitol in Albany, N. Y. The tablet was presented by Mrs. Samuel J. Kramer, State Regent of the Daughters of the American Revolution, after Mrs. Charlotte A. Pitcher, State Chairman, had described the story of the signers' tablet. State Senator William T. Byrne accepted it on behalf of Governor Smith and the people of the State, after which an address was made by Alexander C. Frick, State Historian.

*August 18.* At Roanoke Island, Dare County, N. C., there was celebrated the 339th anniversary of the birth of Virginia Dare, the first white child born on American soil. Members of Congress from North Carolina and Virginia, representatives of the governors of the two States, Bishop Joseph B. Cheshire of North Carolina, and members of the Roanoke Colony Memorial Association were present and took part in the ceremonies which included the unveiling of a monument at Manteo, for which \$2500 was appropriated by Congress, and the delivery of an historical address by Sir Esme Howard, the British Ambassador.

*August 27.* The 150th anniversary of the battle of Long Island was celebrated by the unveiling of a tablet at the South Brooklyn Savings Institution marking the spot where General Washington stood and watched the battle. The chief event of the celebration was a parade through Prospect Park by the Kings County American Legion and their associates. On May 23, a bronze tablet was unveiled in Prospect Park, Brooklyn, in memory of the women who served their country "by moral support or material aid" during the Battle of Long Island. The tablet is on an oak tree, on a hill on which it is said General Sullivan was captured.

*August 29.* The 150th anniversary of American independence and the part played by the Lutherans in obtaining and preserving it were celebrated in Columbus, Ohio, by the delegates attending the 48th convention of the Lutheran joint synod of Ohio meeting there. Tribute was paid to Peter Muhlenberg of Pennsylvania, first Speaker of the House of Representatives, a communicant of the church, as well as to several signers of the Declaration of Independence.



*September 4-11.* A series of festivities celebrating the 150th anniversary of the conference in the Billopp House, in Tottenville, Staten Island, between Benjamin Franklin, John Adams, and Edward Rutledge, commissioners from the Continental Congress, and Admiral Lord Howe on September 11, 1776, when the proposal that the colonists abandon their fight against England was rejected and the American Commission upheld the Declaration of Independence that had been issued in Philadelphia. The exercises began with 150 relay runners leaving Borough Hall, St. George, on September 4 with messages of greeting from Governor Smith of New York, Mayor Walker of New York City, and Borough President Lynch of Richmond to Mayor Kendrick of Philadelphia. The celebration culminated on September 11 with the presentation of the Billopp House in Tottenville to New York City as a National shrine. This dedication was followed by an historical pageant, in which 400 persons took part, depicting the scenes of the conference.

*September 5.* The 150th anniversary of the opening session of the first State Constitutional Convention of New York was held in Fishkill, N. Y. Part of the exercises were in the home of William Verplanck, built in 1730, which was the headquarters of Baron von Steuben. There were also exercises in Trinity Church, Fishkill, where the Provincial Congress convened in 1776, and there was a song service by Daughters of the American Revolution in the Continental burial ground near Fishkill, where Colonial soldiers are buried.

*September 8-18.* The 130th anniversary of the adoption of the Constitution of the United States was celebrated throughout the country with appropriate exercises, generally under the auspices of various patriotic societies. In New York City on September 18, brief exercises were held on the steps of the Sub-Treasury Building under the direction of the Empire State Society of the Sons of the American Revolution at which an address was delivered on "The Constitution—Who Cares?" by J. M. Morse, after which a wreath was placed on the statue of George Washington.

*October 7.* The centenary of the opening of the Erie Canal, now the New York State Barge Canal, was celebrated in New York City by a river parade that included craft of all classes, among which were many of the ancient canal boats and tugs that plied the old Erie. It started from Dyckman Street and proceeded down the Hudson River to Staten Island, where was reproduced the scene that was witnessed a century ago on the deck of the old *Seneca Chief*, when Governor De Witt Clinton poured a bucket of Lake Erie water into the harbor, which act was termed "The Marriage of the Waters." The aquatic procession then proceeded to 23d Street and the East River, where the official party debarked. A dinner attended by 700 representative citizens was held during the evening at the Waldorf-Astoria. For the carrying out of the program a Commission was appointed of which George Clinton of Buffalo, N. Y., a grandson of DeWitt Clinton, was made chairman, and Alfred M. O'Neill of Albany, secretary. Local celebrations were also held at various places along the line of the Canal.

*October 9-10.* San Francisco, Calif., celebrated

the 150th anniversary of her settlement with a pageant that began with the arrival of a little band of padres, soldiers, and settlers in representation of a like band that came to the city's gray hills in 1776 from old Mexico. On the 10th a pontifical mass was celebrated in the old Mission of San Francisco Dolores in memory of those held 150 years ago for thanksgiving after the long months of struggle afoot and astride mules.

*October 16.* The 150th anniversary of the battle of Pell's Neck was celebrated on Prospect Hill, Pelham Manor, N. Y., at the Boston Post Road and Split Rock Road, the site of the battle. The exercises included a parade to the former battlefield and the presentation of a pageant in which were enacted scenes before and after the battle. Also a celebration of this event was held in Mount Vernon, N. Y., on the same day, at which a staff and flag were presented to the city and an historical address was delivered by Judge Isaac N. Mills.

*October 19.* The 145th anniversary of the surrender of the British army under Cornwallis to Washington was celebrated at Yorktown, Va. The exercises included the placing of a wreath on the Yorktown Monument by representatives of the Sons of the American Revolution, the Daughters of the American Revolution, and other patriotic organizations. The exercises were under the joint auspices of the Sons and Daughters of the American Revolution of Virginia and the principal address was by Congressman Bland of the first Virginia district.

*October 28.* The 150th anniversary of the Battle of White Plains was observed in White Plains, N. Y., with the United States Government, the State of New York, the Westchester County Historical Society and the Daughters of the American Revolution participating. In the afternoon ground was broken at Chatterton Hill for the first Federal marker for this Revolutionary battlefield. The annual meeting of the Historical Society was held early in the afternoon at which papers descriptive of the battle were read, while later a tableau and a playlet dealing with incidents of the Battle of White Plains were presented. A two-cent commemorative postage stamp was issued by the United States Government in honor of the event.

*November 10.* The 151st anniversary of the formation of the U. S. Marine Corps was celebrated by a "birthday party" held in the Penn. Athletic Club in Philadelphia at which Major-General John A. Lejeune, commandant of the corps, was the guest of honor.

*November 17, 18, and 19.* The tercentenary of the founding of the city of New York was conspicuously celebrated. The opening day was devoted to individual expositions by Broadway merchants. Electric light standards from 34th to 75th Streets were decorated with shields inscribed "Give a thought to Broadway." In Battery Park at noon under the joint auspices of the Broadway Association and the Battery Park Association, there was a parade of soldiers from Governors Island and sailors from the New York Navy Yard. A salute was fired and there was a flag raising. For Thursday it was planned that a group of airplanes should fly high above Times Square and drop a ton of flowers in the vicinity of this centre of the city's life. "Miss Broadway" was to have distributed roses thrown from the planes. Also ten thousand colored bal-

loons were to have been released from the top of a prominent building. These features were in part prevented by mist and threatened rain. On Friday, the third day of the celebration, a parade started from 74th Street and proceeded south along Broadway to a point near 34th Street. Each float represented some distinctive picture symbolic of a spirit of progress and dealt with the tercentenary year in the history of New York City. The Broadway Association float illustrated the growth of New York and of Broadway from a winding country lane. It showed Battery Park as it was in the early days with Castle Garden, now the Aquarium, as the first milepost. The scene was continued to Bowling Green and No. 1 Broadway, the site of the first fort.

**December 6.** The Americans in Paris celebrated with a banquet the 150th anniversary of the arrival of Benjamin Franklin in France as the envoy from the American Colonies, which had declared their independence from Great Britain on the previous July 4. Franklin's landing was also appropriately celebrated on December 4 at the little fishing port of Auray in Brittany.

**December 29.** The 150th anniversary of the battle of Trenton was celebrated in Trenton, N. J., under the auspices of the New Jersey Historical Society. A parade and public dinner to which the President of the United States and governors of the thirteen original States were invited, were among the features of the celebration.

**WASHINGTON BICENTENNIAL.** The bicentennial anniversary of the birth of George Washington was to occur in 1932 and as mentioned in the YEAR BOOK for 1925 (p. 130), it will be celebrated with adequate ceremonies, the preparation of which has been entrusted to a National Commission appointed by the President, of which Senator Simeon D. Pess of Ohio is the chairman. No definite plans had been determined upon up to the end of 1926 although the public had been invited to make suggestions. In accordance with the request former President Charles W. Eliot of Harvard wrote: "This celebration, however, should be solemn, not gay, and spiritual, not materialistic. It should appeal to thinking people, not to the careless or indifferent. Its aims should be to increase the number of Washington's disciples and followers in and for the struggles of the future." Since the formation of the Commission it had lost by death Senator Spencer of Missouri and Frank A. Munsey and there had been added to it Bernard M. Baruch of New York

and Prof. Albert Bushnell Hart of Massachusetts.

The 100th anniversary of the great congress convened by the Liberator, Simon Bolivar, in Panama, on June 22, 1826 was celebrated by a Pan-American Congress held in Panama during June 18-25, 1926. In addition to the usual receptions and entertainments, a Bolivarian University of Panama was inaugurated with formal ceremonies, and a monument designed by the Spanish sculptor Benlliure was accepted. It presents a heroic figure of Bolivar with a bas-relief on either side depicting scenes in the life of the great Liberator. Surmounting the monument is a condor, symbolic of the South American continent and freedom. A commemorative series of postage stamps in honor of the Congress was ordered by the government of Panama. The June issue of the *Bulletin* of the Pan American Union was a commemorative number in honor of "a glorious anniversary."

**CELTIC STUDIES.** See PHILOLOGY, MODERN.

**CEMENT.** In 1926 foreign cement was making its way in the American market, being landed at New Orleans, New York, New Haven, Boston, and other eastern seaboard cities, just as had been done previously in the Hawaiian Islands and on the Pacific Coast, so that it was competing with the American product. For 1926 the total of imported cement was estimated at about 4,000,000 barrels as compared with about 3,500,000 barrels in 1925, and about 1,000,000 three years previously. European cement manufacturers were increasing their export surplus and Belgium in particular, one of the largest importers of cement, had tripled its production. As a result of these large imports American cement manufacturers were asking for increased protection.

The U. S. Bureau of Mines stated that the production of Portland cement in the United States in 1926—164,057,000 barrels—was the largest quantity manufactured thus far in any year, exceeding that in 1924, the next highest year in production, by almost 10 per cent.

The total manufacturing capacity of all the active plants at the end of 1925 was 193,391,000 barrels, according to manufacturers' reports supplemented by a few estimates. This total included the annual capacity—about 5,800,000 barrels of finished Portland cement—of six new plants that had begun operating during the year. They are located as follows: one each in Georgia, Michigan, Texas, and Virginia, and two in Ohio.

The Cement Committee of the American Society for Testing Materials during the year 1926 recommended a new standard which was

PORTLAND CEMENT MANUFACTURING CAPACITY OF THE UNITED STATES, BY COMMERCIAL DISTRICTS, 1924 AND 1925—U. S. BUREAU OF MINES

District	Estimated capacity (barrels)		Percentage of capacity utilized	
	1924	1925 *	1924	1925 *
Eastern Pennsylvania, New Jersey, and Maryland . . . .	43,831,000	43,607,000	88.2	92.4
New York . . . . .	9,107,000	10,199,000	83.1	86.0
Ohio, Western Pennsylvania, and West Virginia . . . . .	16,289,000	18,994,000	88.0	82.0
Michigan . . . . .	11,501,000	15,301,000	80.5	71.5
Wisconsin, Illinois, Indiana, and Kentucky . . . . .	23,532,000	26,091,000	92.7	90.2
Virginia, Tennessee, Alabama, and Georgia . . . . .	12,889,000	15,746,000	88.5	85.8
Eastern Missouri, Iowa, Minnesota, and South Dakota . .	17,675,000	18,942,000	83.9	76.9
Western Missouri, Nebraska, Kansas, and Oklahoma . .	12,202,000	13,240,000	81.1	80.6
Texas . . . . .	5,175,000	5,880,000	88.2	83.3
Colorado and Utah . . . . .	3,205,000	3,275,000	75.6	61.2
California . . . . .	14,727,000	16,474,000	78.9	79.5
Oregon, Washington, and Montana . . . . .	4,967,000	5,692,000	60.1	68.0
Total . . . . .	175,100,000	193,391,000	85.3	83.6

\* Subject to revision.

then officially adopted by the Society and was accepted by most of the makers and users of cement. In these specifications a slightly higher tensile strength requirement for the mortar briquette as well as more precise details of testing were demanded. These new specifications brought about reforms in testing cement which were stated to be much needed, as there had been variations in methods of testing as well as in the quality of the material under test, and it was deemed desirable to have the testing placed on such a basis that users could place absolute dependence on the results specified. There were in progress during the year co-operative studies by the Portland Cement Association and the Bureau of Standards which aimed to study the real nature of Portland Cement, its properties and behavior under the varying conditions of use. It was realized that this work would require a number of years and should answer a number of important questions which experience of many years of use had emphasized rather than solved.

**CENSUS, UNITED STATES.** During the fiscal year 1925-26 the United States Bureau of the Census handled 12,700,000 reports from individuals, corporations, institutions, etc., according to the annual report of the Director, W. M. Steuart. These reports were concerned with the social, industrial, and business life of the country, including births, deaths, and marriages, agriculture, manufacturing, forestry, mining, irrigation, power, fisheries, water transportation, and State and city finances. Tabulations of these data were made available to the public in 4860 mimeographed and printed statements and bulletins.

In connection with the gathering of the vital statistics, the report draws attention to the fact that the United States is probably the only major power that does not have a complete registration of births and deaths, many of the States not having adequate laws on this subject. To remedy this the Bureau was making an effort to have satisfactory registration laws on the statute books of every State before the next

PORTLAND CEMENT PRODUCED AND SHIPPED IN THE UNITED STATES, 1925, BY STATES

State	Production		Shipments		Average factory value per barrel
	Active plants 1925	Barrels 1925	Barrels 1925	Value 1925	
Alabama ..	5	6,288,117	6,045,967	\$9,824,439	\$1.82
California ..	10	13,098,140	13,109,426	26,159,531	2.00
Illinois ..	4	7,101,024	6,749,532	11,481,576	1.70
Iowa ..	5	4,648,145	4,856,849	8,674,563	1.79
Kansas ..	7	6,511,398	6,513,297	10,861,506	1.67
Michigan ..	16	10,936,181	10,073,453	17,511,908	1.74
Missouri ..	5	8,331,751	8,168,165	14,155,795	1.73
New York ..	9	8,769,584	8,534,089	14,967,642	1.75
Ohio ..	9	5,714,685	5,420,768	9,600,084	1.77
Pennsylvania ..	22	42,346,830	41,899,787	72,870,981	1.74
Texas ..	6	4,858,212	4,735,521	8,729,046	1.84
Washington ..	4	2,481,923	2,499,237	5,523,324	2.21
Other States *	36	40,572,916	38,683,121	68,163,713	1.76
Total ..	138	161,658,901	157,295,212	278,524,100	1.77

\* Includes Colorado, Georgia, Indiana, Kentucky, Maryland, Minnesota, Montana, Nebraska, New Jersey, Oklahoma, Oregon, South Dakota, Tennessee, Utah, Virginia, West Virginia, and Wisconsin.

SUMMARY OF ESTIMATES OF UNITED STATES PRODUCTION AND SHIPMENTS OF FINISHED PORTLAND CEMENT IN 1926, BY DISTRICTS  
[In thousands of barrels. Revised Jan. 10, 1927]

Commercial district	Production	
	1926	1925
Eastern Pa., N. J., & Md. ....	41,647	40,279
New York ..	8,801	8,770
Ohio, Western Pa., & W. Va. ....	15,901	15,573
Michigan ..	12,020	10,936
Wis., Ill., Ind., & Ky. ....	21,358	23,521
Va., Tenn., Ala., & Ga. ....	15,308	18,506
Eastern Mo., Ia., Minn., & S. Dak. ....	14,138	14,572
Western Mo., Nebr., Kans., & Okla. ....	10,264	10,673
Texas ..	5,001	4,858
Colorado, Montana, & Utah ..	2,514	2,299
California ..	13,897	13,098
Oregon & Washington ..	3,208	3,574
Total ..	164,057	161,659

Commercial district	Shipments	
	1926	1925
Eastern Pa., N. J., & Md. ....	40,180	40,287
New York ..	8,543	8,534
Ohio, Western Pa., & W. Va. ....	15,761	14,629
Michigan ..	11,961	10,073
Wis., Ill., Ind., & Ky. ....	21,876	22,053
Va., Tenn., Ala., & Ga. ....	14,962	18,048
Eastern Mo., Ia., Minn., & S. Dak. ....	14,026	14,478
Western Mo., Nebr., Kans., & Okla. ....	10,163	10,524
Texas ..	5,042	4,786
Colorado, Montana, & Utah ..	2,457	2,263
California ..	13,696	13,109
Oregon and Washington ..	3,114	3,561
Total ..	161,781	157,295

decennial census in 1930. (See VITAL STATISTICS.) In order to show the principal facts concerning the productive industries of the country the Bureau collects and publishes, each second year, statistics of employment, wages, production, and power for all manufactures, and of stocks, production, consumption sales, and various other facts concerning the leading key industries, annually or at more frequent intervals. During the year ended June 30, 1926, approximately 743,000 reports were received from the 282,954 establishments covered by these statistics. The report emphasized the importance of obtaining statistics on distribution, in connection with those on manufacture, and recommended that preliminary work be done as soon as possible to establish the best methods of taking such a census.

For the agricultural census of 1925 a total of \$3,730,000 was appropriated, and during the year there were 1122 persons engaged on this work and 57,000,000 cards were punched, making a total of 96,387,000 cards punched for the Census of Agriculture. Cotton reports received during the year numbered 240,000. The information they contained was collected by 775 local special agents from 18,260 ginneries and 8000 other establishments, including cotton mills, cotton storage establishments, and mills engaged in crushing cotton seed and manufacturing cottonseed products. Summaries showing the quantity of

cotton ginned were published 12 times during the ginning season.

During the year a census of religious bodies was in progress.

**CENTRAL AMERICA.** The term generally applied to the southern portion of the North American continent, lying to the north of the Panama Canal and south of Mexico, and consisting of the five states, Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador. See the articles on these respective countries.

**CEYLON, se-lon'.** An island in the Indian Ocean off the southern extremity of Hindustan, belonging to Great Britain. Its extreme length from North to South, i.e., from Point Palmyra to Dondra Head, is 266 miles; its greatest width 140½ miles from Colombo on the west coast to Sangemankande on the east coast. Area, 25,332 square miles; population, at the census of 1921, 4,504,549, as compared with 4,106,350 in 1911; estimated at the end of 1925, 5,009,502. The registered movement of population in 1924 was as follows: Births, 178,866; deaths, 122,959; marriages, 27,117. The chief cities with their populations in 1921 are: Colombo, 244,163; Jaffna, 42,436; Galle, 39,073; and Kandy, 32,047. The number of vernacular schools in 1924 was: Government schools, 1080, attended by 110,818 boys and 48,932 girls; aided schools, 1811, attended by 128,027 boys and 82,678 girls; unaided schools, 1012, attended by 12,779 boys and 5225 girls; English and Anglo-vernacular schools, 388, attended by 50,299 boys and 14,807 girls.

In 1924 the areas under the principal crops were: Paddy, 750,000 acres; other grains, 102,000 acres; cacao, 33,000 acres; cinnamon, 25,000 acres; tea, 418,000 acres; coconuts, 900,000 acres; and rubber, 450,000 acres. Of the total area of the island, 16,212,400 acres, it is estimated that about 3,000,000 acres are under cultivation and about 742,000 acres, pasture land. The livestock in 1924 was reported at 2000 horses, 1,383,000 horned cattle, 59,000 sheep, 50,000 swine, and 158,000 goats. The chief mining interest is plumbago, 50 mines being in operation at the end of 1924 and the exports in that year being 213,000 hundredweight. Gold, thorium, and monazite exist to some extent but have scarcely justified exploitation on a commercial scale. Gem quarries abound throughout the island and among the precious stones found are moonstones, rubies, cat's-eyes, and sapphires. The native manufactures include weaving and the making of tortoise shell boxes, earthenware, lacquer work, jewelry, carving, etc. They are not of much commercial importance, however. The chief manufactures on a large scale pertain to agricultural products, including the extraction of coconut oil.

The revenue in 1923-24 was £6,824,208 and the expenditure, £6,713,048. Imports in 1924 amounted to £20,821,898 and exports to £25,701,161. The chief exports were tea, rubber, coconuts, cacao, and cinnamon; the chief imports, cotton manufactures, rice and paddy, and coal and coke. The shipping which entered and cleared in the same year was 18,508,000 tons, of which 11,553,000 tons were British. At the beginning of 1925 there were 742 miles of railroads in operation and several new extensions under construction. The administration, as embodied in an Order in Council of December, 1923, is in the hands of a governor, aided by an executive council of seven members and a legislative coun-

cil of 49 members (12 official and 37 unofficial). Of the unofficial members, 23 are elected to represent territorial divisions, two to represent the Europeans, two the Burgher Community, one the Chamber of Commerce, one the Western Province Tamils, three the Mohammedans, and two the Indians. Governor at the beginning of 1926, Sir Hugh Charles Clifford.

The Maldive Archipelago, consisting of 13 coral islets, 400 miles west of Ceylon, is tributary to Ceylon. They are sparsely settled by a mixed race of probably original Aryan stock and governed by a native Sultan. The islands are covered with coconut palms and yield millet, fruit, and coconut produce. Communication is mainly by native craft with Ceylon and the mainland. The population numbered over 70,000 at the 1921 census. The islanders are civilized and are great navigators and traders.

**CHAMBER MUSIC.** See MUSIC.

**CHAPIN, CHARLES FREDERIC.** American editor, died at Waterbury, Conn., October 27. He was born at South Hadley, Mass., Aug. 3, 1852, and graduated from Yale in 1877. In 1878 he became editor of the *Waterbury American* and in 1883 was made secretary of that publication as well as its editor.

**CHAPMAN, WILLIAM YOUNG.** American theologian and educator, died in Newark, N. J., October 27. He was born in New Brunswick, Canada, in 1859, and was educated at Mount Allison University in Canada and at Princeton University and Princeton Theological Seminary. After pastorates at Reading and Franklin, Pa., he went to Buffalo where he remained for four years, going in 1905 to Newark to become the pastor of the Roseville Presbyterian Church. In 1924, Dr. Chapman was made president of the Bloomfield Presbyterian Theological Seminary and in addition to his theological studies was greatly interested in the reformation movement in the old world, particularly in the Ukraine. A breakdown early in the summer of 1926 preceded his fatal illness.

**CHARITIES.** See CHILD LABOR; CHILD WELFARE; OLD AGE PENSIONS; RED CROSS; SOCIAL WORK; UNEMPLOYMENT; YOUNG MEN'S CHRISTIAN ASSOCIATION; YOUNG WOMEN'S CHRISTIAN ASSOCIATION and the various articles on religious bodies and societies with charitable activities.

**CHAUTAUQUA INSTITUTION.** An educational movement established in 1874 by Lewis Miller and Dr. John H. Vincent, both prominent in the Methodist Episcopal Church. The institution is non-sectarian in principle, though the original idea of the organization was a Sunday school for teachers, whose purpose was to conduct a summer school where a series of correlated lectures and entertainments were presented during the months of June, July, and August. The three general fields of activity are: the general assembly, consisting of an educational and popular series of lectures and addresses, concerts and dramatic entertainment, etc.; the summer schools, offering courses of formal classroom instruction; and a home reading circle in which a set of four books is designated for reading during the year, in addition to a news narrative appearing in a monthly review. In 1926 there were 18 departments in the summer school, with 125 instructors and 2500 students, while the attendance at the annual session was estimated at 45,000. Financial support is obtained largely through individual gifts. Permanent buildings,

valued at \$1,250,000, are owned by the Institution at Chautauqua, N. Y., where the general summer assemblies are held and the Chautauqua Press is located. Officers: George E. Vincent, honorary president; Arthur E. Bestor, president; William L. Ransom, chairman of trustees; Shailer Mathews, chairman of executive board; Charles E. Pierce, secretary; and Jessie M. Leslie, treasurer.

**CHEESE.** See DAIRYING.

**CHEMICAL FOUNDATION.** See CHEMISTRY, INDUSTRIAL.

**CHEMICAL INDUSTRY, SOCIETY OF.** See CHEMISTRY, INDUSTRIAL.

**CHEMICAL SOCIETY. AMERICAN.** See CHEMISTRY, INDUSTRIAL.

**CHEMICAL WAR SERVICE.** See MILITARY PROGRESS.

**CHEMILUMINESCENCE.** See CHEMISTRY, INDUSTRIAL.

**CHEMISTRY.** The message brought to us in 1926 by the many students of, and workers in, chemistry was one of continual progress. No other branch of science seems to offer greater opportunities for either scientific or material advancement so that its attractiveness continued to be most alluring. Something of the development of the progress of this favorite science is shown in the paragraphs that follow.

**NEW ELEMENTS.** During 1925 there were numerous announcements of the discovery of new elements, and it seemed reasonably probable that the entire series would be completed in the near future. On March 8 a press dispatch was published announcing the discovery of one of the five unknown elements by B. S. Hopkins of the University of Illinois in Urbana, Ill. This discovery was made by placing a sample of the material in an X-ray tube in such a way that the X-rays when formed originate from the material to be examined. These rays fell between the places where the lines for No. 60 and No. 62 would appear and they must be those of the unknown element No. 61. In time the element will be isolated from the material containing it and its properties studied in detail. As this element was discovered in the United States the name "Americium" was proposed for it, but Professor Hopkins gave it the name of "Illinium" in honor of the State University where it was isolated. In May Dr. William Teg of Cornish, Me., announced his discovery of a new radioactive element which he calls brodium and reports it to be closely related to the alkali elements, such as potassium and sodium. On the other hand the elements numbered 75 and 43 in the periodic tables announced in 1925 by Walter Noddack and named by him rhenium and masurium have not been definitely accepted; for according to Science News (*Science*, Sept. 24, 1926, p. x) O. Zvjaginstsev repeated the experiments of Noddack using rare metals from the same source and has failed to find the element No. 75 at all and considers the presence of the still rarer element No. 43 "extremely unlikely." In addition therefore to Nos. 43 and 75 there still remain Nos. 61 (Illinium), 87 and 85 to be discovered. The announcement of brodium by Teg if corroborated would probably prove to be No. 85. A press dispatch of November 6 announced that Prof. Luigi Rolla of Florence, Italy, at a meeting of scientists in Bologna described his discovery of the unknown element No. 61.

**ATOMIC WEIGHTS.** The nature of atoms con-

tinues to be an interesting subject for investigation, especially when applied to the transmuting of elements. Although the changing of baser metals to gold seems for the time not to be accepted, nevertheless the changing of base lead under the influence of electric current in a quartz lamp into mercury and perhaps into thallium was announced by A. Smits and A. Karssen of the University of Amsterdam. Of considerable importance was the substantiation of Bohr's theory that light and X-ray radiation are emitted by atoms in the process of change from one activated state to another, announced in a press dispatch in February by Prof. Karl T. Compton of the Palmer Laboratory of Princeton University.

According to determinations made by G. P. Baxter and W. C. Cooper (*Journ. Phys. Chem.*, vol. 29, p. 1364) the atomic weight of germanium was found to be 72.60. The material used was germanium tetrachloride and 32 analyses of this salt gave the ratios  $\text{GeBr}_4 : 4 \text{ Ag}$  and  $\text{GeBr}_4 : 4 \text{ AgBr}$  from which the atomic weight was calculated with silver at 107.880 and bromine 79.916. Studies by G. P. Baxter and H. W. Starkweather on the density and atomic weight of helium show (*Proc. Nat. Acad. Sci.*, vol. 12, p. 20) that the average values for the densities at 0° and 380 and 760 mm. at sea level, latitude 45° are 0.08923 and 0.17846 respectively. Taking the density of oxygen at 0° and 760 mm. at sea level, latitude 45°, to be 1.42898, previously recorded erroneously as 1.42901, the atomic weight of helium is 4.000, uncertainty affecting the fourth decimal only.

From the laboratories of Harvard comes a study on the atomic weight of uranium lead and the age of an especially ancient uraninite by T. W. Richards and L. P. Hall. They report (*Journ. Amer. Chem. Soc.*, vol. 48, p. 74) that uranium lead from a specimen of the oldest Pre-Cambrian mineral yet found ( $1.5 \times 10^9$  years) has an atomic weight of 208.07. Correction for the thorium content of the mineral reduces this to 206.02 but it appears probable that the atomic weight of pure uranium lead is less than this. W. D. Haskins and S. B. Stone report (*Journ. Amer. Chem. Soc.*, vol. 48, p. 938) their finding the mean atomic weight of meteoric chlorine to be 35.458 and that of terrestrial to be 35.457. Terrestrial chlorine of non-marine origin has the same atomic weight as that obtained from the sea. These results support Haskins' theory that the relative abundance of isotopes is most largely conditioned by their relative stability. A determination of the atomic weight of silver made by H. L. Riley and H. B. Baker (*Journ. Chem. Soc.*, vol. for 1926, p. 2510) gave as mean of 6 experiments a mean value of  $107.864 \pm 0.0013$ .

**ANALYTICAL CHEMISTRY.** As the student proceeds with his work he naturally experiments with various agents to accomplish his purpose and this practice results in the discovery of improved methods or technique, as well as in new or modified forms of apparatus. Some of the advances made in this branch of chemistry are given below.

K. Sampson recommends (*Biochem. Zeit.*, vol. 164, p. 288) for the determination of phosphoric acid in small amounts of material the following procedure: After precipitation of protein with trichloroacetic acid, inorganic phosphate is determined in the filtrate and organic phosphate in the ashed precipitate, by the ammonium

phospho-molybdate method. According to W. W. Lepeschkin (*Biochem. Zeit.*, vol. 171, p. 126), living protoplasm is distinguished from dead by the chemical combination of the lipin with the protein constituents, the severing of which combination constitutes the death of the tissue. M. Wikul describes (*Zeit. Anorg. Chem.*, vol. 151, p. 338) a new method for the determination of potassium as follows: The potassium is precipitated from hot solution in presence of considerable amounts of sodium chloride by means of sodium cobaltinitrite, in the preparation of which tartaric acid has been substituted for the usual acetic acid. From the weight of the precipitate, which is a complex adsorption compound, the weight of potassium is obtained by multiplying by the empirical factor 0.1598.

A new micro-burner is recommended by R. Strebing (*Mikrochem.*, vol. 4, p. 14) which he describes as follows: The jet of the burner consists of two concentric tubes, the inner tube having a relatively thick wall, so that the orifice is small. By means of a cock, the gas stream can be directed through the central jet or through the annular space between the two tubes to give a small, circular flame. A second stopcock serves to regulate the volume of gas supplied to the burner. Concerning proline E. Abderhalden and H. Sichel (*Zeit. Physiol. Chem.*, vol. 152, p. 95) report that it may be esterified almost quantitatively by passing hydrogen chloride into its alcoholic solution and removing the solvent and catalyst in a vacuum. The hydrochloride of the ester is stable in a vacuum at 120° and is not decomposed by organic solvents. Even in aqueous solution it is not easily hydrolyzed. The free ester, on the other hand, is readily decomposed at the ordinary temperature by traces of water. It does not easily form polypeptides or anhydrides, but proline anhydride has been isolated in small yield.

According to A. Elek and H. Sobotka (*Journ. Amer. Chem. Soc.*, vol. 48, p. 501) the Kjeldahl method for the determination of nitrogen gives satisfactory results with nitro-compounds if dextrose be added to the reaction mixture in the proportion of 1 gram to 0.1 gram of the substance desired to be analyzed. Equally satisfactory results are obtained with dextrose when using Prezl's method of micro-analysis. With regard to the preparation of phenolphthalol and its reaction towards oxydases and peroxydases G. D. Buckner (*Amer. Journ. Physiol.*, vol. 74, p. 354) describes a new method for the preparation of phenolphthalol, which he finds to be a satisfactory reagent for oxydases and peroxydases but which, however, is not preferable to phenolphthalin. He finds that human blood can be detected at a dilution of 1 in  $5 \times 10^6$ .

It has been found by E. V. Howell (*Journ. Amer. Pharm. Assoc.*, vol. 14, p. 704) that by the use of silica gel instead of talc in aqueous solutions, only one third as much material is required and that filtration is more rapid. It is noted however that ethyl alcohol and silica gel produce an effervescence and a rise in temperature. According to Miss H. J. Ravenswaay (*Chem. Weekblad.*, vol. 23, p. 375) zinc acetate on ignition gives widely varying proportions of residue, and cannot be converted into oxide. When the substance is heated in a distilling flask the condensate collected below 100° contains zinc.

BIOCHEMISTRY. Great interest was being mani-

fested in the application of new compounds to therapeutic uses in medicine; not only in the great institutions where the prevention of disease is studied but also in State experiment stations where such remedies are considered in relation to lower animals.

Of interest is the isolation of a new substance from blood and its bearing on determination of uric acid by G. Hunter and B. A. Eagles. These authors find (*Journ. Biol. Chem.*, vol. 65, p. 623) that by treatment of the protein-free filtrate from red blood-corpuscles with alcoholic mercuric chloride, fractional precipitation of the solution obtained on recovery from this precipitate with lead acetate and sodium hydroxide, removal of the lead from the precipitate with sulphuric acid, and treatment of the resulting solution with mercuric sulphate, there was obtained, from 5.5 liters of corpuscles 0.7 gram of a substance,  $C_6H_7O_5N_3$ , darkening at 250° and with a melting point of 269°-270°. The substance is neutral, takes up the bromine and decolorizes alkaline permanganate, gives Weyl's reaction, and is resistant to acid hydrolysis, being unchanged by heating at 140° for four hours with 20 per cent sulphuric acid; with nitrous acid, it gives traces only of nitrogen; it is suggested that the compound is a simple pyrimidine nucleoside. The substance gives a blue color with the reagents used for the determination of uric acid, and its presence accounts for the discrepancies observed between determination by the method of Benedict and that of Folin and Wu.

It was pointed out by S. Schmidt (*Ann. Inst. Pasteur*, vol. 39, p. 875) that Martin's broth possesses many advantages over other broths employed for the production of diphtheria toxin. It is cheaply prepared and gives a large yield of toxin, which is constant in properties and has good antigenic power. Its clearness renders easy the reading of the end-period of an agglutination reaction. H. M. Fox describes (*Nature*, vol. 117, p. 49) a new porphyrin as follows: although the hematin of hemoglobin and that of chlorocruorin both contain iron, the former has a different porphyrin from the latter, the axes of the bands of the two porphyrins obtained by Nencki's method being respectively 593, 549 and 613, 533  $\mu$  in quite dilute (1:3) hydrochloric acid. When a modification of Laidlaw's procedure for the preparation of porphyrin was employed the porphyrin from chlorocruorin which is soluble in chloroform, gave bands situated considerably on the red side of those from oöporphyrin or porphyrin from hematin.

The values of beef, pork, and lamb as sources of vitamin-A were studied by R. Hoagland and G. G. Snyder (*Journ. Agric. Res.*, vol. 31, p. 201) who followed the growth of young rats receiving rations adequate in other respects, but with varying proportions of dried lean meat as the only source of vitamin-A. The energy values of the different rations were found to be practically the same. The samples of beef and pork tested were relatively poor in vitamin-A. When 50-95 per cent of the ration consisted of the beef, growth was almost normal but in no case was normal growth obtained with the pork. The samples of lamb differed considerably; some were rather poor in vitamin-A, whereas others were richer than any other samples of meat tested.

J. A. Northrup has investigated carbon dioxide production and the duration of life of

*Drosophila* cultures. He finds (*Journ. Gen. Physiol.*, vol. 9, p. 319) that since the total quantity of carbon dioxide produced during its lifetime by each individual is greater at 15° than at 26° or 30° and is much greater in the light than in the dark, the duration of life of *Drosophila* can not be determined by the time required to produce a limiting amount of carbon dioxide. From their investigations G. Fontes and A. Yovanovitch find that the exclusion of light decreases nitrogen metabolism nearly to the level attained during sleep. The decrease in nitrogen metabolism during sleep in light is less than the corresponding decrease in darkness. D. L. Thomson reports (*Biochem. Journ.*, vol. 20, p. 73) that he finds the wings of the butterfly *Melanargia galatia* to contain a yellow crystalline pigment with a melting point of 253°, having the properties of a flavone or flavonol. A. Chanutin finds (*Journ. Biol. Chem.*, vol. 67, p. 29) that the oral administration of creatine to man is followed by retention of large amounts of the substance: after sufficiently prolonged intake of creatine, however, a definite increase in the excretion of creatinine occurs. Ingestion of creatine exerts a slight sparing effect on the nitrogenous metabolism.

L. Hackspill, A. P. Rollet, and M. Nicloux (*Compt. Rend.*, vol. 182, p. 719) stated that argon and nitrogen are present in defibrinated blood in approximately the proportions predicted by Henry's law. No argon was detected in the blood clot after it had been dried in a vacuum. The presence of argon in the blood is therefore due to physico-chemical equilibrium with the atmosphere, and not to radioactive decomposition of potassium as suggested by Pictet, Scherrer, and Helfer. A study of the iron contents of meat by E. B. Forbes and R. W. Swift reports (*Journ. Biol. Chem.*, vol. 67, p. 517) that analyses of various kinds of meat yield results that showed that, of meats in common use, beef is the richest in its content of iron. D. T. Harris (*Biochem. Journ.*, vol. 20, p. 271) finds that the irradiation of blood with ultra-violet light causes it to give up oxygen at high oxygen tensions and take up oxygen at low tensions. At about 15 mm. tension of oxygen there is gaseous equilibrium, no net change occurring on passing from the dark into the light. The taking up of oxygen by blood in ultra-violet is, he contends, a property of the plasma.

Iodine as a biogenic element receives full attention at the hands of B. Bleyer (*Biochem. Zeit.*, vol. 170, p. 265), who publishes a number of tables that show the iodine contents of the foodstuffs of districts in which goitre is and is not prevalent both within and without Bavaria, and of the typical soils, rocks, and drinking waters of these districts. Of considerable interest is the study by R. Combes (*Compt. Rend.*, vol. 182, p. 984) who by his determination of the nitrogen in oak leaves, stems, and roots, in two-year old plants shows that the nitrogen migrates from the leaves during the autumnal fading and accumulates in the stems and roots, the total quantity in the plant remaining approximately constant.

M. Sternberg finds (*Biochem. Zeit.*, vol. 171, p. 217) that the bilirubin in urine is oxidized by carefully warming with hydrogen peroxide in the presence of phosphoric acid and 50 per cent alcohol. This is shown by the green color of biliverdin which develops and intensifies on

cooling. The blood catalase content in mountain and valley dwellers in Middle Asia has been studied by A. I. Alexeev, who finds (*Biochem. Zeit.*, vol. 173, p. 433) that these mountain dwellers have an average of 38 per cent more catalase to the unit volume of blood than valley dwellers. Blood catalase is at its maximum in the morning and reaches a minimum in the evening. An investigation of the pancreas of all species of animals made by G. Bertrand and M. Macheboeuf (*Compt. Rend.*, vol. 182, p. 1305) shows relatively large amounts of nickel and cobalt as compared with other organs. Insulin, it was found, contains a relatively much larger proportion of nickel and cobalt than the pancreas, namely some 0.045 mg. to 100 clinical units of insulin. These same authors find (*Compt. Rend.*, vol. 183, p. 5) that the influence of nickel and cobalt on the hypoglycemic effect of insulin in the dog is similar to that in the rabbit. H. von Euler and I. Lindstal, who studied the vitamins, report (*Arkiv. Kemi, Min. Geol.*, vol. 9, p. 1) that the saponification of cod liver oil in an atmosphere of hydrogen yields a residue having reducing properties and a high iodine number. An aldehyde is probably present, distillable at 0.03 to 0.05 mm. Among the distillation products of cod liver oil is a fraction with strong reducing properties and a low iodine number. C. S. Williamson and H. N. Ets report (*Amer. Journ. Physiol.*, vol. 77, p. 480) that they find the concentration of hemoglobin in the blood to fall steadily during the first fifty days of life and that then it rises again, reaching a maximum at about the 150th day, only thereafter to fall somewhat to a steady value. According to G. A. Hartwell (*Biochem. Journ.*, vol. 20, p. 751) the proteins of oatmeal are of good value as regards growth in rats. A diet of oatmeal, butter, and salt mixture however, is inadequate for gestation and lactation. The addition of food casein, gluten, gelatin, and egg-albumen to the oatmeal produces better growth in the suckling rat.

From the leaves of the New Zealand pepper plant *Wintera colorata* H. J. Finlay reports (*New Zealand Journ. Sci. Tech.*, vol. 8, p. 107) that he has extracted an essential oil of which the main constituent appears to be a limp colorless oil with a boiling point of 169°-170°, and also a pyrocatechol tannin which seems to differ from any yet recorded. His attempts to isolate the pungent principle were unsuccessful.

The isolation of insulin was effected by C. Funk (*Science*, vol. 63, p. 401) who reports that insulin purified by way of its compound with flavianic acid, gave analytical results corresponding with the formula  $C_{56}H_{102}O_{22}N_{14}S$  or  $C_{74}H_{114}O_{24}N_{20}S$ . The structure may be that of a polypeptide compound of about 15 amino-acids. J. J. Abel of the Johns Hopkins University is credited with the preparation of crystalline insulin. Also L. Pollak (*Arch. Exp. Parth. Pharm.*, vol. 116, p. 15) reports that the pancreas of human diabetics contains insulin but much less than the pancreas of normal individuals. A study on the ripening of tomatoes by J. F. Rosa (*Proc. Amer. Soc. Hort. Sci.* for 1925, p. 315) shows the hydrogen-ions of concentration and total acidity are maximal at the turning stage and minimal in the ripe fruit. Sugars, such as dextrose, and nitrogen increase from the green mature to the ripe condition; starch practically disappears in the earliest stages of ripening. The proportions of total soluble nitrogen and soluble solids in-



crease, the insoluble solids decreasing. Ethylene acts, it was found, as a stimulus to oxidative processes in fruit.

**GENERAL CHEMISTRY.** The trend towards mineral chemistry is shown by the forceful words of Edgar F. Smith who, at the jubilee meeting of the American Chemical Society in Philadelphia, said: "If the student of chemistry be desirous of engaging in the unraveling of profound chemical problems, he will find them in almost inexhaustible stores in that field." It might be added that there is a growing interest in that borderland between physics and chemistry called physical chemistry in which are to be found so many fascinating topics pertaining to the origin of matter.

**HELIUM.** Considerable advance was made in our knowledge of helium. In May a press dispatch claimed for C. F. Adams of Dayton, Ohio, that he had transmuted hydrogen gas into helium and other elements and that he had produced gold from mercury. Later came the announcement that the U. S. Bureau of Mines had carried out a series of experiments with animals in which a mixture of helium and oxygen was used for breathing purposes under pressure. The results with the animals seemed to indicate that this new mixture would be more suitable for deep-sea diving operations than the plain air now used, which contains a larger percentage of nitrogen.

In July a cable message brought the news that Prof. W. H. Keesom of Leyden University, Holland had succeeded in solidifying helium. With the help of very strong pumps a temperature of less than nine-tenths of a degree above absolute zero was obtained, but at this temperature the helium remained in a liquid state. On June 23, however, by subjecting the helium to a pressure of 150 atmospheres and a temperature of four and a quarter degrees absolute, the helium became fixed. A later experiment with one-half of a degree absolute and a pressure of 28 atmospheres was successful. The first experiment was accomplished in a steel tube and the second in a glass tube. According to O. Koblitz (*Chem. Listy*, vol. 19, p. 389) the average life period of ionium has been found to be 29,000 years. This age has been determined by a comparison of the intensity of a saturated current from the ionium of a sample of pitchblende containing 63-65 per cent of uranium with that of a saturated current from ionium-thorium oxide. The ratio of ionium to thorium in the saturated current is assumed to be 3:7.

An interesting study of the free path of slow protons in helium was made early in the year by G. P. Thomson. He finds (*Nature*, vol. 117, p. 235) that the scattering of protons in helium is maximal for rays of energy about 10,000 volts. The scattering of protons in hydrogen increases with decreasing energy of the rays, but less rapidly than if the scattering were due to forces of the inverse square type. C. H. Kunsman describes (*Science*, vol. 62, p. 29) a new source of positive ions. He finds that a previously fused mixture of iron oxide with 1 per cent of an oxide of an alkali or alkaline earth metal, with or without 1 per cent of aluminum oxide, when used as a hot anode, or employed as a coating for a platinum anode, gave after partial reduction steady positive ion currents up to  $10^{-4}$  amp./cm.<sup>2</sup> in a vacuum (10-mm.)

W. Fraenkel and A. Stern give (*Zeit. Anorg.*

*Chem.*, vol. 151, p. 105) their determinations of the crystallization temperature of alloys of gold and nickel on a continuous curve, having a minimum of 950° for alloys containing 15-20 per cent nickel. A continuous series of mixed crystals is thus formed and microscopical observation showed that 20 per cent and 40 per cent alloys are homogeneous, the former corresponding with the supposed eutectic mixture described by Levin in 1905 and by de Cesaris in 1914. According to C. G. Bedriag (*Ann. Sci. Univ. Jassy*, vol. 13, p. 346) the Volta effect is shown to be closely associated with the sub-grouping of the electrons in the outer shell of the atoms, but is also modified by the formation of molecules and by the surface layer, which is analogous to the layer causing ordinary surface tension, but it is only of the thickness of one atom or molecule. The work done by an electron in passing across this layer is a function of the constitution of the atom, and the Volta effect for two substances is the algebraic sum of the work of passage across the two layers in contact. The observed effect however, is complicated by the thermo-electrical, photo-electrical, and chemical effects which may coexist.

An interesting paper on the distribution of size of particles in disperse systems was published by A. Gyemont (*Zeit. Physik.*, vol. 36, p. 457). He deduces a formula for the size of the particles based on the assumption that stable systems result from the aggregation of smaller particles. This aggregation, he contends, is the result of collisions and reaches a limit, which is determined by the boundary potential, the electric charge, and the degree of hydration.

According to J. Vogel (*Monatsch.*, vol. 46, p. 265) rubidium and cesium show no tendency to replace one another in silver gold halides. On account of the great difference in solubility and crystal form of the rubidium and cesium triple chlorides, a method is proposed for the separation of these elements which is spectroscopically complete. This paper confirms the previous studies of Wells.

As to the possible synthesis of elements in the X-ray tube, F. H. Loring describes (*Chem. News*, vol. 132, p. 311) his experience as follows: An X-ray spectrum of potassium phosphate containing calcium and aluminum showed the presence of bromine. This may have been derived from the commercial potassium salt used in making the phosphate, and the author also suggests that it may have been produced from the potassium and calcium in the phosphate by four electrons entering the nucleus in the condensation of the two metals so as to reduce the atomic number to the correct value: (K)19 (Ca)20-4 = (Br)35. As a contribution to the interesting speculation as to the possibility of transforming mercury into gold, A. Gaschler (*Zeit. Elektrochem.*, vol. 32, p. 186) reports that mercury has been detected spectroscopically in a vacuum tube in which gold was bombarded with hydrogen nuclei in the form of positive rays. According to H. Bartels (*Zeit. Physik.*, vol. 37, p. 35) an atom can return in stages from the excited to the normal state. A relation is sought between the distribution of the energy of excitation over the single terms and the distribution of spectral intensities. Also the author develops a method which gives a survey of the complicated phenomena, particularly of the decrease of intensity along one series and the rela-



tion of the intensity in one series to that in another. Mlle. J. Inge and A. Walther presented their results (*Zeit. Physik.*, vol. 37, p. 292) of measurements of the voltage necessary to perforate microscopic objects and cover glasses at various temperatures up to 300°. From the temperature of liquid air up to about 50° there is no influence of temperature but above a critical temperature, different for different specimens, the variation of E. M. F., with temperature is in accord with the theory of heat. For rock salt the critical temperature lies between 220° and 250°.

It was found by L. F. Yntema (*Journ. Amer. Chem. Soc.*, vol. 48, p. 1598) that differences in physical properties such as color, must be due to different arrangements of the electrons in inner shells or levels; the presence of color in rare earth-elements is due to an incomplete kernel; in each instance where the kernel is complete the element has no absorption bands. A relationship between the absorption spectra is indicated which may be expected from analogy with X-ray and spark spectra. According to O. W. Richardson, who had made a series of investigations on the structure in the secondary hydrogen spectrum (*Proc. Roy. Soc.*, vol. 222, p. 714), a more detailed examination of the spectrum of the first type discharge, in which the strength in the red consists almost entirely of hydrogen and Fulcher's lines, has shown that there are a number of other lines which belong to the same system as Fulcher's bands. He therefore proposes a rearrangement of these lines.

G. Piccardi, an Italian student, reports (*Atti R. Accad. Lincei*, vol. 3, p. 489) that for the ionization potential of silver he finds values between 7.37 and 7.67 volts, the mean being 7.46 volts, which is in accord with the value 7.54 volts given by Foote and Mohler in their *Origin of Spectra*. He concludes therefore that Shentone's value of six volts must be erroneous.

An interesting study of the constitution of atoms scandium to nickel was published by R. Samuel and E. Markowicz (*Zeit. Physik.*, vol. 38, p. 22). These authors discuss the analogy between the valencies and paramagnetism of the ions and work out a scheme of subgrouping of the electrons. The 3<sub>s</sub> subgroup they subdivide into two groups. If all the 3<sub>s</sub> electrons were interchangeable there would be a greater similarity between the trivalent ions of one element and the bivalent ions of the preceding element, such as exists between beryllium and aluminum, lithium and magnesium, etc.

An important study of the band fluorescence of potassium and sodium was made by P. Pringsheim (*Zeit. Physik.*, vol. 38, p. 161). According to his account the metals were purified with great care, heated at 300° in a glass bulb, and illuminated with light from a powerful carbon arc. In addition to the red bands of potassium and the bluish green and orange bands of sodium, yellow bands were observed for a mixture of sodium and potassium which can also be obtained as absorption bands. These bands cannot be due to the presence of hydrogen or organic impurities and must be ascribed to molecules Na<sub>2</sub>, K<sub>2</sub>, and NaK. J. K. Syrkin finds (*Zeit. Anorg. Chem.*, vol. 155, p. 317) that the application of the quantum theory to the theory of the velocity of chemical reactions necessitates the assumption that the cross-section of the light quanta is proportional to the square of the

wave-length, which conflicts with the results of light absorption measurements. Also that the decomposition of sulphuryl chloride takes place at a higher speed than is accounted for by the radiation theory.

**MINERALOGICAL CHEMISTRY.** New minerals and their composition as well as the constituents of rocks with their relations to other chemical compounds, together with their behavior under chemical conditions, are included in this branch of chemistry.

In support of the view that when dolomite is calcined both calcium and magnesium oxides are formed simultaneously by dissociation, C. S. Garnett (*Min. Mag.*, vol. 21, p. 21) shows that mixtures of which calcium and magnesium carbonates and magnesium oxide may form part do not set unless there is also calcium oxide present, whilst the setting properties of partly burnt dolomite are well known. W. P. Eppler and H. Rose (*Chem. Zentr.* for 1926, p. 251) find that the hardness of the diamond is not the same in all directions, being least parallel to the cube faces, greater parallel to the rhombodecahedral faces, and greatest parallel to the tetrahedral faces. The faint colorations of simple substances such as sodium chloride and calcium fluoride are found by R. Klemm and G. O. Wild (*Chem. Zentr.* for 1926, p. 339) to be due to the decomposition of some of the constituent molecules into their atoms. This idea is in harmony with the fact that on heating the color gradually disappears. Colored minerals, such as feldspar, garnet, and tourmaline, owe their colors to the complexity of their molecules.

J. N. Friend (*Nature*, vol. 117, p. 789) describes his examination of water from the Dead Sea for eka-caesium and eka-iodine. Samples of Dead Sea water were collected during the summer at a depth of two feet which were found to contain small quantities of strontium salts. From the mother liquor after removal of non-alkali metals and fractional crystallization of sodium chloride, potassium chloroplatinate was precipitated, but neither this compound nor potassium chloride prepared from it gave any indication of the presence of eka-caesium when examined by X-ray analysis. Nor was the presence of eka-iodine indicated. C. Moureu and A. Lepape (*Compt. Rend.*, vol. 183, p. 171) describe the separation of the krypton and xenon in air and the amounts obtained by them. These rare elements are removed from the crude argon by fractional absorption with coconut charcoal and are then determined by the spectrophotometric method.

According to a press dispatch from Rome two new minerals containing silver, gold and platinum in a colloidal state have been discovered by Ludovico Dalferno who named them *dalfernite* and *aurogummite*. He describes dalfernite as a special variety of muscovite mica of crystalline or semi-crystalline form and micaceous structure. Aurogummite is a primary mineral, and is massive and compact, in an amorphous, glassy state. E. S. Larsen and E. T. Wherry announce a new mineral which they name *beidellite* from Beidell, Colo. where it was originally found. Its composition is given as Al<sub>2</sub>O<sub>3</sub>, 3SiO<sub>2</sub>, *n* H<sub>2</sub>O. *Swedenborgite* is a new mineral that crystallizes in the hexagonal system and according to an analysis by G. Aminoff has a composition corresponding to the formula Na<sub>2</sub>O, 2Al<sub>2</sub>O<sub>3</sub>, Sb<sub>2</sub>O<sub>3</sub>.

S. G. Gordon describes as new (*Proc. Acad.*

*Nat. Sci., Phila.*, vol. 77, p. 317) a lead gray mineral with metallic lustre and radiating columnar structure from Bolivia which he calls *penroseite* and which has a composition that is indicated by the formula  $PbSe, Cu_2Se (Ni.Co) Se_2$ . He also reports on an amber yellow mineral from Pintados, Chile, which he calls *trudellite*, and which has the composition of  $Al_2(SO_4)_3, 4AlCl_3, 4Al(OH)_3, 30 H_2O$ . Likewise, L. Zechmeister and V. Varabely describe (*Berichte*, vol. 59, p. 1426) under the name of *ajkaite* a new organic mineral found in Hungary, which appears to be a particular variety of fossil resin with a characteristic sulphur content of 1.5 per cent. It resembles but is certainly not identical with amber.

**ORGANIC CHEMISTRY.** This branch of chemistry is often called the chemistry of the carbon compounds, and in its domain research is often rewarded with brilliant discoveries, such as the aniline colors, or the synthetic dyes, as artificial alizarine or artificial indigo, or a synthetic remedy for disease, so that it continues to be most alluring to students. Some evidence of the progress in this favorite branch of chemistry follows:

The general properties of proteins were studied by M. L. Anson and A. E. Mirsky (*Journ. Gen. Physiol.*, vol. 9, p. 169) who conclude from theoretical reasons but with no new experimental evidence that: (1) hemoglobin, when denatured, is probably depolymerised to hemochromogen, and that in other proteins denaturation probably consists in depolymerisation, native proteins, therefore, being considered as aggregates of denatured proteins; (2) the globins and histones are to be regarded as denatured proteins rather than as a distinct class; (3) a non-polar group is uncovered when a protein is denatured; and (4) proteins are highly specific only in the native form. These authors further discuss in this paper the factors affecting the equilibrium between native and denatured protein. The results of an important study of an X-ray investigation of fibroin by R. Brill indicate (*Annalen*, vol. 446, p. 307) that an analogy seems to exist between the supposed structure of the unit silk crystal and that of the diketomethylpiperazine compounds obtained by Bergmann, Miekeley, and Kann.

A study involving the determination of unsaturated in presence of saturated and tricyclic hydrocarbons made by S. Nametkin and L. Brussoff shows (*Journ. Prakt. Chem.*, vol. 112, p. 169) that in order readily to distinguish unsaturated hydrocarbons from possible cyclic hydrocarbons formed by the dehydration of alcohols, some method of determining the former is desirable. Experiments with pure and mixed hydrocarbons show that the unsaturated hydrocarbons can be determined in the presence of saturated and cyclic hydrocarbons by the action of perbenzoic acid in chloroform solution. Excess of the oxidizing reagent is used and the excess determined iodometrically. By this suggested method accurate determination is possible with small amounts (0.1-0.3 grams) of hydrocarbon. The proposed method simplifies the study of the dehydration of alcohols.

R. J. Williams and P. A. Lasselle report (*Journ. Amer. Chem. Soc.*, vol. 48, p. 536) that creatine darkens when heated so that the temperature rises about  $10^\circ$  a minute, and then finally decomposes with effervescence at about  $291^\circ$ . Its identification is assisted by its quantitative loss of water of crystallization (12.082 per

cent) at  $100^\circ$ , and by its conversion into creatinine, the latter being identified by the melting point of the picrate and by the Jaffe reaction.

The mechanical liquefaction of starch is the subject of a study by R. Petit and Richard (*Compt. Rend.*, vol. 182, p. 657), who find that when starch paste is passed six times in the form of a spray into carbon dioxide or hydrogen, a soluble starch,  $[M]D_{210}^{20}$ , is obtained but when kept under sterile conditions the solution becomes progressively more cloudy. When centrifuged, a limpid, soluble starch solution is obtained, together with a deposit containing starch granules and cellulose. When heated with amylase at  $20^\circ$ , starch gives 0.91 per cent of an insoluble material which yields soluble starch on treatment with warm water, 61.4 per cent of dextrose when boiled with dilute hydrochloric acid, 100.5 per cent of dextrose when hydrolyzed with dilute hydrochloric acid and after previous boiling, and 73.9 per cent of maltose. When treated with amylase at  $50^\circ$  after previous boiling, some cellulose is found after the previous boiling treatment. Starch after treatment with light petroleum readily gives soluble starch.

It is reported by O. Dafert and Z. A. Melinaki (*Ber.*, vol. 59, p. 788) that when solutions of arsenic trichloride and pyridine in light petroleum are mixed, the very hygroscopic compound,  $AsCl_3, C_5H_5N$ , with a melting point of  $145.5^\circ$ , separates. In this connection these authors also describe the substances  $AsBr_3, 2C_5H_5N$  and a melting point of  $195^\circ$  and  $AsI_3, 3C_5H_5N$ . According to O. Achmatowicz (*Rocz. Chem.*, vol. 6, p. 59) hydrogen chloride combines with nopinene to produce bornyl chloride and terpinyl or terpene chloride. This may be explained on the basis of Starrinski's theory of the analogy between conjugated double linkings and rings whilst Wagner's theory does not afford a satisfactory explanation. It has been found by A. Zimmermann (*Compt. Rend.*, vol. 182, p. 1082) that larger crystals of herapathite (quinine sulphatoperiodide) than those hitherto obtained may be prepared by the action of iodine vapor on a solution of quinine sulphate in the presence of caffeine or quinol. In using two of these crystals as polarizer and analyzer respectively, the color in the position of extinction is sometimes olive green and sometimes bright red.

C. F. Ahmann and N. D. Hooker have investigated the constitution of pectin. Their studies published by the Missouri Agriculture Experiment Station show that titration of pectic acid indicates 11 carboxyl groups, but more are probably present. The nucleus proposed for pectic acid is a dibasic acid, galacturonic-galactonic acid; at least six such nuclei are associated. The hydrolytic decomposition of pectin by cold concentrated hydrochloric acid has also been studied and the results are given by these authors. According to H. B. Vickery and C. S. Leavenworth (*Journ. Biol. Chem.*, vol. 68, p. 225) the separation of histidine and arginine is not accomplished by treating a solution containing these two compounds with silver nitrate and then with barium hydroxide until faintly alkaline to phenolphthalein, precipitates all the histidine and a considerable amount of arginine. In this these authors disagree with the work of Kossel and Edlbacher who found that histidine alone is precipitated under these conditions.

A study on the organic chromium salts was published by E. Ageno-Valla and B.

Raposo who report (*Boll. Uff. Staz. Sperim. Ind. Pelli*, vol. 4, p. 75) with descriptions of various chromium formates especially those of definite composition, such as the normal chromic formate,  $\text{Cr}(\text{CO}_2\text{H})_3$ ;  $\text{Cr}_2(\text{OH})_4(\text{CO}_2\text{H})_2$ ,  $15\text{H}_2\text{O}$ ;  $\text{Cr}_2(\text{OH})_4(\text{CO}_2\text{H})_2$ ,  $7.5\text{H}_2\text{O}$ ;  $\text{Cr}(\text{OH})_2$ ,  $\text{CO}_2\text{H}$ ,  $6\text{H}_2\text{O}$ . The normal formate and to a greater extent the basic formates have tanning properties. The treatment of chromic hydroxide with lactic acid failed to yield definite salts. R. Delaplace (*Compt. Rend.*, vol. 183, p. 69) describes the preparation of cesium metal from the chloride and its conversion into the hydroxide. He then obtains cesium eosinate in crystalline form by evaporating a solution of the hydroxide to which an excess of eosin (as free acid) has been added and the excess removed by filtration.

According to H. LeB. Gray (*Ind. Eng. Chem.*, vol. 18, p. 811) chemical evidence indicates that in the cellulose molecule one hydroxyl group per  $\text{C}_6\text{H}_{10}\text{O}_5$  is different from the other eleven, and to account for this a formula for cellulose consisting of four dextrose residues, three of which contain the amylenoxide ring and the fourth the butylene oxide ring is proposed. This suggested formula is in agreement with known data concerning the degradation products of cellulose. J. C. Andrews (*Journ. Biol. Chem.*, vol. 69, p. 209) finds that the most complete reduction of cystine to cysteine was obtained by the use of tin and hydrochloric acid in large excess or by electrolytic reduction. In the latter case racemisation occurred unless the solution was well cooled. Starting with *l* cystine having  $[\alpha]_D^{20} -215.5^\circ$ , preparations of cysteine were obtained with  $[\alpha]_D^{20} -9.7^\circ$ .

**CHEMISTRY, INDUSTRIAL.** A greater recognition of the possibilities of industrial chemistry is substantiated by the progress indicated in that which follows in this brief summary, and also in the general acceptance of the suggestions made by leading chemists before the Institute of Politics held in Williamstown, Mass., such as "forget your worries and trust to chemistry," and "the real function of the chemist is to free man from the tyranny of specific raw materials."

**ORGANIZATIONS.** The spring meeting of the American Chemical Society was held in Tulsa, Okla., April 5-8. Symposia on Lubricants and on Orientation and Segregation as applied in Chemical Education, and a public address by A. D. Little on "The Romance of Carbon" were conspicuous features of the meeting. There was a registration of 431 names. The golden jubilee meeting,<sup>1</sup> celebrating the 50th anniversary of the founding of the Society, was held in Philadelphia, the week of September 6-10. On September 5 a pilgrimage was made to Northumberland, Pa., the home of Joseph Priestley, where in 1874 the centennial of the birth of chemistry was celebrated by a gathering of chemists, at which the first suggestion of the founding of an American Chemical Society was made. At Northumberland the chemists inspected the house built by Priestley in 1796, dedicated the new Priestley Museum which contains the laboratory apparatus and books used by the founder of modern

chemistry, and participated in a meeting on the lawn of the home, under tall pine trees planted by Priestley. Prof. Gerold L. Wendt presided at the memorial meeting, and S. A. Goldschmidt and A. A. Breneman of New York, surviving members of the group of chemists who attended the historic meeting at Priestley's grave in 1874, spoke on The Birth of the American Chemical Society at the Priestley House at that time. The Philadelphia gathering was marked not only by the large number (2249 persons registered) of chemists both from the United States and abroad but also by the large number of papers which were read and discussed. An unusual spirit of optimism as to future possibilities in chemistry prevailed and predictions as to the solution of such problems as a cheap motor fuel, artificial rubber, and new synthetic remedies for disease were made.

The Priestley Medal for outstanding achievement in chemical science was awarded to Dr. Edgar Fahs Smith, Provost Emeritus of the University of Pennsylvania, who delivered a lecture on "Joseph Priestley." Public addresses on "The Development of Chemical Industry in Italy" by Prince Genori Conti; "The Dyestuff Industry, Forerunner of What?" by Irénée du Pont; "La Chimie Moderne and Marcelin Berthollet" by Paul Sabatier; "Flames of Atomic Hydrogen" by Irving Langmuir; "Chemical Reactions of Atomic Hydrogen" by Hugh S. Taylor; and "Caricature in Science," by Ernst Cohen, were delivered. The nominations for honorary membership made at the Tulsa meeting were confirmed and included among the American members were Prof. Ira Remsen, Prof. Theodore W. Richards, and Dr. Edgar F. Smith. Four foreign chemists who came as delegates to the golden jubilee meeting of the American Chemical Society received honorary degrees of Doctor of Science from the University of Pennsylvania. They were Ernst Cohen of Holland, Prince Genori Conti of Italy, Sir James C. Irvine of Scotland, and Paul Sabatier of France. A special feature was the Pageant of Chemical Progress, which emphasized progress in American industrial history by a series of historical, technical, and commercial exhibits at the University of Pennsylvania gymnasium. The President during the year was James F. Norris, who delivered his annual address on "A Look Ahead."

The 45th annual general meeting of the Society of Chemical Industry was held in the Hotel Great Central, London, England, from July 19 to 23. During the year 367 new members were elected and the membership was reported as 4802 as compared with 4831 in 1925, a loss of 29. The treasurer reported a deficit of £1274. The feature of the meeting was the presentation of the Messel medal to the Earl of Balfour and his delivery of the Messel Memorial Lecture. Mr. W. J. U. Woolcock who had held the presidency of the Society for two years was succeeded by Francis H. Carr, and Edinburgh was chosen as the place of meeting for 1927. This year the meetings of the Society of Chemical Industry were held in coöperation with the following additional organizations: London Chemical Society, Institute of Chemistry, Association of British Chemical Manufacturers, British Association of Chemists, British Chemical Plant Manufacturers' Association, Bio-Chemical Society, Coke Oven Managers' Association, In-

<sup>1</sup> An admirable summary of the proceedings of the meeting with the title of "Golden Jubilee Number" constitutes a special issue (*Aug. 20, 1926*) of the *Journal of the American Chemical Society* (254 pp.).

stitute of Brewing, Institute of Metals, Institution of the Rubber Industry, Institution of Chemical Engineers, Institution of Petroleum Technologists, Oil and Color Chemists' Association, Society of Leather Trades Chemists, Society of Public Analysts, and the Chemical Industry Club, thus constituting a Congress of Chemists.

The annual meeting of the London Chemical Society was held in Manchester, England, on March 25, when the secretary reported a membership of 4083 as compared with 3963 in 1924. The treasurer's report was also favorable and showed a balance of £406. The address of the retiring president, Prof. W. P. Wynne, was on "The Coöperation of Science and Industry." Professor Wynne was succeeded by Prof. H. Brereton Baker.

The seventh annual gathering of the International Union of Pure and Applied Chemistry was held in Washington, D. C., during September 13-15. Delegates from Belgium, Canada, Chile, Denmark, Esthonia, France, Great Britain, Italy, Japan, Netherlands, Poland, Roumania, Spain, Switzerland, and the United States were present, making it one of the best attended gatherings ever held. The sessions at which papers of technical interest were presented, were presided over by Ernst Cohen of Netherlands. Conferences were held by smaller groups at which such topics as the reducing of chemical terminology to a common basis so as to make sure that similar products were given the same analysis were discussed; also the creation of an international commission to establish common methods of analysis for all products included as liquid fuels, such as gasoline, kerosene, benzine, and fuel oils was considered. It was agreed that the International Union should endeavor to devise a plan whereby scientific men who make discoveries and inventions and who usually do not patent such discoveries and inventions shall get some monetary reward when their work is developed into a commercial paying proposition. It was also recommended that foreign countries shall adopt that section of the patent laws of the United States, which provides that when a scientific discovery is made public, either orally or in writing, the author shall be allowed two years' time in which to make application for patent. Warsaw, Poland, was selected as the meeting place next year. In addition to numerous entertainments, Prince Genori Conti delivered a public lecture on "A Geophysical Study of the Soffioni District in Tuscany." At the close of the meeting the delegates were entertained by an excursion to large industrial centres including Wilmington, Del., Pittsburgh, Pa., Detroit, Mich., Niagara Falls, Rochester, and Schenectady, N. Y.

**WILLIAMSTOWN INSTITUTE OF POLITICS.** At the sixth annual session of this Institute (see **POLITICS, INSTITUTE OF**) held during August, the rôle of chemistry in the world's future affairs was presented in a series of papers among which were "Chemistry and World Affairs," by Dr. Harrison E. Howe, editor of *Industrial and Engineering Chemistry*, "Chemistry in World's Progress," by Sir James C. Irvine, Principal and Chancellor of St. Andrews University, Scotland, "Nutrition and Health," by Prof. H. C. Sherman of Columbia University, and "Future Chemotherapy," by Prof. A. S. Loevenhart of the University of Wisconsin.

**MEDALS.** In addition to the presentation of the Priestley medal of the American Chemical Society, the greatest of possible honors to an American chemist, given on September 7 to Dr. Edgar F. Smith of the University of Pennsylvania, the following award of medals may be mentioned: The Grasselli medal presented annually by the American Section of the Society of Chemical Industry for the paper delivered before that section that offers the most useful suggestion in applied chemistry, was given on Dec. 4, 1925, to Edward Robie Berry of the General Electric Company, Lynn, Mass. On Jan. 15, 1926, the Perkin medal of the American section of the Society of Chemical Industry was conferred on Richard B. Moore, formerly of the U. S. Bureau of Mines, for his contributions to industrial chemistry, especially those pertaining to the development of helium. Three large plants in Texas for the production of this valuable gas were under his care. On March 5, there was awarded to Samuel Coville Lind, associate director of the Fixed Nitrogen Research Laboratory, the William H. Nichols medal of the American Chemical Society given "for the research published during the current year which is most original and stimulative." Dr. Lind invented the interchangeable electroscope for radium measurements and originated the ionization theory of the chemical effects of radium rays. On April 28 the Chandler medal was conferred on Samuel Wilson Parr, professor of Applied Chemistry at the University of Illinois, "in recognition of his distinguished achievements in chemical science." The subject of his address on the occasion of the presentation was on "The Constitution of Coal." The Messel medal of the Society of Chemical Industry was on July 19 conferred on the Earl of Balfour who made the memorial address. On October 28, the Grasselli medal of the American Section of the Society of Chemical Industry was awarded to Charles Raymond Downs for his studies as indicated by his paper presented on that occasion on "Some Speculations in Catalytic Oxidation Reactions."

**ACTION OF UNITED STATES ON GERMAN PATENTS.** In 1922 the sale of certain German chemical patents to the Chemical Foundation, ordered under the administration of President Wilson while A. Mitchell Palmer was Alien Property Custodian, was attacked. President Harding directed that suit be filed for cancellation of the transaction, asserting that the price obtained was inadequate, that the sale was made without authority, and for other reasons. Since that time the matter had been in the courts until October 11, when the Supreme Court sustained the sale of seized German chemical and dye patents, trademarks, and copyrights, to the Chemical Foundation by the Alien Property Custodian. This decision wrote the final chapter of one of the largest and most spectacular of the Government's post-war recovery suits. The highest court upheld the adverse decision rendered after trial in the district court at Wilmington, Del. The previous history of the suit is to be found in earlier **YEAR BOOKS** (1922, p. 137; 1923, p. 139; 1924, p. 144; and 1925, p. 143) which should be consulted for detailed information.

**BERYLLIUM.** From Cleveland in January came the announcement that beryllium, a metal with remarkable properties, had been made available to industry after nine years of experimenting.

Formerly costing \$5000 a pound, it can be produced now at \$200 a pound. Alloyed, beryllium furnishes an entire series of new materials for metal manufacturing. It weighs 30 per cent less than aluminum, and while aluminum melts at 660°C., beryllium stands up under 1278°, a little less than the point at which steel melts. Airship construction is an obvious use for so light a metal, and had it been discovered ten years ago, alloys probably would have been developed strong enough to have prevented the Shenandoah disaster. The possibilities of this metal lie in its use with aluminum and magnesium, but unlike these, which corrode easily, beryllium is not affected by cold or boiling water or by steam at maximum heat.

**GOLD.** Concerning the production of gold from inferior metals referred to in the YEAR BOOK for 1925 (p. 144) it was the opinion of Dr. Haber that some one had allowed his gold-rimmed glasses to touch the mercury with which Professor Miethe performed his experiments of changing the atomic weight of mercury to produce gold. Dr. Haber believed there was a trace of gold in the mercury or that it came in contact with gold before or during the electrical charges and that the theory of being able to change the atoms as advanced by Professor Miethe was totally incorrect. Professor Miethe's later experiments, performed in the Kaiser Wilhelm Institute, which is the official research organization, had not produced the slightest trace of gold.

**IRON.** A process for the manufacture of electrolytic iron from discarded tin cans and automobile bodies, as well as other forms of iron which go to waste has been successfully introduced at Niagara Falls. The method consists in using bars of cast iron as anodes of huge wet batteries, the liquid being a solution of iron chloride. The cathode, the other terminal of the battery, consists of a bar of steel, and when the current is passed through, the iron dissolves from the cast-iron bar into the liquid, and at the same time is deposited from the solution on the steel bar. The iron thus deposited forms a cylinder up to a quarter of an inch thick. The metal on the inside next to the steel, which is deposited first, contains hydrogen, which makes the iron brittle, but this gas is removed by passing the cylinder through an oil-heated furnace. A stripping machine is used which enlarges the diameter of the iron tube, so that it may be slipped off the steel cathode, which may be used over and over again. The tubes may be used as they come from the machine for some purposes, or they may be flattened or slit and made into plates from which other iron objects may be made. Since only iron is deposited by this process, it is suggested that waste iron from dump heaps might be reclaimed by dissolving it in the iron chloride solution and recovering it electrolytically.

From Pittsburgh came the announcement in August of a new steel product—steel with a great wear-resistance surface, but a soft core, which was described as "a combination of steel elements never before obtained." The product, named "Jalcase," will reduce production costs and increase output of parts for automobiles, washing machines, other household appliances, typewriters and adding machines, shoe and textile machines and equipment where steel of great wear resistance is required for moving parts.

Heretofore, steel used in moving parts was hard throughout. Jalcase, with its hard surface and soft core, possesses a triple combination of fast machining, case hardening, and forging properties.

**LITHIUM.** In March an announcement was made of the discovery of lithia-bearing minerals northeast of Pointe du Bois, south of the Winnipeg River in Manitoba, forming an important addition to the deposit in Quebec, both of which constitute the only known lithium resources in the British Empire that are accessible to transportation and available for development. These ores consist of the minerals petalite, lepidolite, spodumene, and amblygonite. Numerous assays for lithia from sample minerals have been made and spodumene and lepidolite gave results of from 2 to 4 per cent. Tantalite, a rare mineral, has been discovered in the spodumene, giving this deposit an added interest. This is only the second discovery of this rare ore in Canada and it is rarely found in the United States. Lithium ore is shipped from California through the Panama Canal to the Atlantic Seaboard, and usually is sent to Europe to be treated, the lithium being returned in tablet form. Market prices for lithium oxide vary little, New York quotations late in the year being \$2.14. Lithium is largely used in the dyeing industry, medicine, photography, fire-works, etc., and the greatest demand is from Europe.

**POTASSIUM.** The development of potash deposits continues to be exploited in the United States. According to a report issued in May by the U. S. Geological Survey, promising sources of potash in the salt beds of Western Texas and Southeastern New Mexico have been discovered that may check the domination of the potash market in the United States by foreign producers. These beds are likely to be thick and extensive, suggesting large potash salt deposits, and while the samples obtained have not shown conclusively whether the potash is present in commercial quantity, indications point in that direction. The discovery was made through the drilling for oil in these regions where the cuttings have revealed potash salts such as are found in Germany and France.

H. M. Payne in a paper read before the American Mining Congress held in Cincinnati, Ohio, on May 24, said that the potash deposits of Texas look like white sand and are from 500 to 1500 feet deep. Government aid will be required in launching the new industry, and a bill was introduced in Congress to appropriate money to drill and prove fields. Later, an investigation of the possibilities of developing the potash deposits in Texas was undertaken by the Geological Survey and the Bureau of Mines of the Department of Commerce. An agent of the Bureau of Mines was sent to discuss details with officials of Texas and the State University and seek their coöperation. The Commerce Department was acting under an appropriation of \$100,000 by Congress, made available for investigating potash properties in the United States.

With regard to published accounts attributed to the Franco-German Potash Sales Agency denying the existence of a potash monopoly, a statement was issued by the Department of Commerce saying: "There can be no question as to the monopolistic character of the Franco-German potash syndicate, since it controls over 90

per cent of the world's potash trade. The United States, its best export market, absorbed during 1925 about 14 per cent of the Franco-German sales of 1,700,000 short tons of pure potash. These importations into the United States constitute about 90 per cent of our total potash consumption."

A new method of making saltpetre, which is used as a fertilizer, from the elements of the air was announced by Prof. K. A. Hofman of Charlottenburg, Germany. His process is as follows: Ammonia gas, made from nitrogen of the air and hydrogen of water, is mixed with air and passed through a mixture of caustic soda and chalk with burnt clay to which a small amount of copper or nickel carbonate is added. This reaction takes place rapidly at temperatures of about 750° F. It is said that if the gases are compressed the action is hastened, and that between 90 per cent and 97 per cent of the ammonia can be induced to form saltpetre.

**TANTALUM.** Chemists who have been working to find a satisfactory substitute for platinum have found an alloy of tantalum that seems to serve the purpose, owing to its great resistance to heat and acids, two properties required in platinum and platinum-iridium. The new alloy is said to last 1600 times longer than platinum itself and to be 20 times cheaper.

**BROMINE.** In August, the Chief of the Chemical Division of the U. S. Federal Tariff Commission announced that the recovery of bromine from sea water, successfully undertaken by the steamship *Ethyl* equipped as a floating chemical factory, offered the greatest immediate means of increasing the domestic supply of bromine. Sea water contains an average of about 0.0004 per cent of bromine and about 1800 gallons of sea water must be treated for every pound of the element recovered. The trial trip of the *Ethyl* indicated a production in excess of the vessel's rated capacity of 100,000 pounds of bromine a month. In a little more than two years, it is estimated, about 300,000,000 gallons of ethyl gasoline were marketed, requiring about 2,800,000 pounds of ethylene bromide, or 2,500,000 pounds of bromine. It is practically impossible to predict the extent to which ordinary gasoline will be ethylized. If the entire gasoline consumption were treated with ethylene, bromide and tetraethyl lead, 90,000,000 pounds of bromine would be required.

Prior to the World War bromine production in Germany amounted to about 1,900,000 pounds a year. The annual output has increased to about 3,000,000 pounds. Owing to the United States import duty on bromine and bromine compounds everything possible will be done to meet requirements from domestic sources before turning to Germany or other foreign countries. It is also possible that bromine may be recovered from the by-product bitters of salt production by solar evaporation of sea water in San Diego Bay, Cal. It was understood that at one plant in California plans were under way for the production of over 300,000 pounds of bromine a year.

**NITROGEN.** It has been found in the Fixed Nitrogen Research Laboratory in Washington that the adoption of small quantities of alkaline oxides in the fixation process increased the yield of nitrogen sufficiently to make the process practical. It also was found that these substances emitted positive electricity in the process.

To determine the nature of the positive current, apparatus was built at Princeton by Prof. H. D. Smyth and Dr. H. A. Barton. Their experiments show that the positively charged particles were single atoms which had lost one electron known as ions. This confirmed the theory of Prof. Hugh S. Taylor of Princeton, who suggested that the presence of certain chemicals intensified chemical activity under the proper circumstances, without entering into chemical change themselves.

According to Dr. Frederick G. Cottrell, of the Fixed Nitrogen Research Laboratory, in commenting on this discovery, approximately 44 per cent of the world's inorganic supply of nitrogen may be obtained by atmospheric fixation, against less than one-fourth that amount before the war. Furthermore, while the quantity made in this way before the war was almost wholly by the arc and cyanamid process, nearly 70 per cent of future fixation will be obtained through the direct synthesis of ammonia.

**JOINING METALS.** A process for this purpose developed by Dr. Irving Langmuir of the General Electric Company in Schenectady, N. Y., is as follows: A stream of hydrogen is passed between two electrodes. The heat of the arc breaks the hydrogen molecules into atoms. The latter, in resuming the condition of molecules a short distance in front of the arc, liberate an enormous amount of heat, which makes the process more efficient than the usual welding methods. Since atomic hydrogen is a powerful reducing agent, it absorbs any oxides that otherwise might form and weaken the metal. It also makes possible the welding of alloys containing chromium, aluminum, silicon, or manganese without fluxing or surface oxidation.

A similar process developed by Peter Alexander of the Thomson Laboratory of the General Electric Company in Lynn, Mass., utilizes the chemical and physical properties of hydrogen and other gases in their molecular state. This process embodies the same chemical advantages as does Dr. Langmuir's. In it the arc is struck between the metallic wire or carbon used as one electrode, and the plate or object to be welded as another electrode. The crater of the arc is always on the object to be welded. Gaseous atmosphere is supplied in a stream around the arc, and for this purpose pure hydrogen, water gas, hydrogen-nitrogen mixtures, or other gases may be used, depending on the nature of the work. This process makes arc welding more efficient in the welding of low-carbon steel, alloy steels, and most of the non-ferrous metals and alloys.

**STUDIES IN PETROLEUM.** The petroleum industry, through the American Petroleum Institute, in 1926 was about to embark on a wide programme of research, and the Institute, in a bulletin (No. 43) issued in July asked for the coöperation of all persons interested in the development of the oil resources of the United States. Twenty-one projects in fundamental research in the geology, physics, and chemistry of petroleum were recommended to the American Petroleum Institute by the Central Petroleum Committee of the National Research Council. Under the head of chemistry are listed nine projects. The first of these, Project 8 in the summary, is to determine the effect of electric discharge upon gaseous hydrocarbons. Project 14 involves the preparation of pure typical hydrocarbons and the study of their behavior when heated alone

and with catalysts. Project 15 covers the determination of the composition of Southern California petroleum and the characteristic reactions of the various components when isolated. Project 16 contemplates the isolation and investigation of thermolabile hydrocarbons present in petroleum. Project 17 involves the isolation and study of the sulphur compounds present in petroleum. Project 18 was to cover the non-catalytic thermal decomposition of pure hydrocarbons and related compounds. Under Project 19, a study was to be made of the relative rates of reaction of the olefines, such as ethylene, propylene, and butylene. Project 20 covers the isolation and investigation of nitrogen compounds present in petroleum. Project 21 concerns the determination of physical and chemical properties of all types of sulphur compounds present in petroleum. It was pointed out in the Institute's bulletin that the proposed work was of the greatest importance to the industry and to the public. The aid of technical institutions was sought, with that of individuals and corporations, that the work may proceed on as broad a scale as possible.

**SYNTHESIS OF GASOLINE.** According to a press announcement from Paris dated October 11, the synthesis of gasoline has been accomplished by M. Audibert, director of the French National Research Company, who submitted a mixture of hydrogen and oxygen to a pressure of 200 atmospheres and filtered its result with the addition of a secret catalytic agent. This product it was claimed could be refined to yield gasoline, kerosene, and other distillates. Several practical difficulties present themselves to prevent the success of this discovery. The yearly consumption of gasoline in France, according to American officials, was 1,000,000 tons, for which France pays about 3,000,000,000 francs. Assuming that the coal process used in an attempt to manufacture sufficient gasoline should meet the needs of the nation, it was estimated that possibly 4,000,000 additional tons of coal would be required by France for this purpose. France in 1926 had to make up a yearly deficit in coal with purchases abroad, in addition to the reparation coal delivered by Germany. To buy this coal would require an outlay of money that would take much from the saving expected from the manufacture of synthetic gasoline. On the other hand if a wood process were adopted, then France would be forced to find 3,000,000 tons of wood each year, an amount which experts think could not be provided for many years. But what is even more important is the fact that the foreign petroleum companies paid yearly about 1,000,000,000 francs in duties and taxes. This money was received without any outlay in its collection, for the oil companies pay the wages of the Board of Customs Agents engaged in the collecting.

**MOTOR FUEL.** Cheaper motor fuels is a subject that is continually before the public and certain items that have been considered during the year are here presented.

Dr. M. C. Whitaker of the U. S. Industrial Alcohol Company in a report to the American Chemical Society wrote: "The composite fuels made simply by blending anhydrous alcohol with gasoline have been given most comprehensive service tests extending over a period of eight years. Hundreds of thousands of miles have been covered in standard motor car, tractor, motor

boat, and airplane engines with highly satisfactory results. With intelligent adjustment of compression and feed to capitalize the advantages inherent in alcohol blends, they easily excel gasoline on every point important to the motorist. The superiority of alcohol-gasoline fuels is now safely established by actual experience. The future of alcohol motor fuels is largely an economic problem. It involves the relations between the cost of alcohol and the cost of gasoline. The cost of alcohol is necessarily linked with the question of cost and available supply of raw materials. As gasoline becomes scarce an economic balance is bound to be established between the price of gasoline, the price of alcohol, and the price and the resultant supply of raw materials. As this economic balance is approached, alcohol will doubtless be used in the making of motor fuels."

From Berlin came the announcement of turning wood into gasoline, yielding a fuel suitable for automobile motors at about a third of the cost of gasoline. Making charcoal from wood is the first step, after which pyroligneous acid is extracted. The procedure from this point is secret, although every step in the process has been demonstrated before experts. Although the process of liquefying coal had been reported many times, by 1926 it had approached a stage of development where chemical engineers in Germany were willing to invest large sums in special plants and machines. Should the performance come up to expectations, it would be only a short time before Germany would be emancipated from foreign sources of supply for both lubricating oil and gasoline.

Also from Germany came the announcement of a newly discovered gas which had been prepared by one of the chemists connected with the Zeppelin works. One cubic meter of the new gas develops 25 per cent more power than a kilogram of gasoline, according to tests, and it is less expensive than gasoline, since by doing away with the weight of gasoline and tanks and by keeping the ship always at the same weight it is unnecessary to blow off large quantities of hydrogen in order to compensate for the loss of weight through fuel consumption. Since compensation for loss of weight is unnecessary when using the new gas it will increase the average speed of the ship, and since hydrogen gas cells do not need frequent filling it will permit landings to be made anywhere. It was further announced that the new huge airship *Friedrichshafen* (to be completed in 1927) would be driven principally by this new gas.

The possibility of a cheaper gasoline was suggested by the publication in Berlin in August of Prof. Franz Fischer's process of synthesizing gaseous, liquid, and solid carbohydrates from carbon monoxide and hydrogen at ordinary pressure. Hitherto all reduction of carbon monoxide without pressure yielded methane, but Fischer found that by using an iron-zinc oxide catalyzer more complicated products were formed. Other metals and their compounds were studied and a cobalt chromium oxide mixture was found to stimulate the formation of gaseous, liquid, and solid carbohydrates when heated to about 518° F. The carbon of the carbon monoxide is said to be made into carbide by the metal and the carbide then split by the hydrogen in the gas mixture. As a result the metal is regenerated and carbohydrates are formed. This



new method yields a pleasant smelling gasoline as clear as water and one which will not harden or become gummy on exposure. The gasoline is highly volatile and is largely made up of unsaturated compounds like olefines, which impart to the gasoline valuable anti-knock properties. This enables it to be used in efficient high-compression motors without objectionable knocking and with great economy.

The investigation as to the poisonous character of ethyl gasoline referred to in the YEAR BOOK for 1925 (p. 147) was completed early in the year and on behalf of his colleagues Surgeon General H. S. Cumming of the Public Health Service reported the following general conclusions: "1. Drivers of cars using ethyl gasoline as a fuel and in which the concentration of tetraethyl lead was not greater than one part to 1500 parts by volume of gasoline, showed no definite signs of lead absorption after exposures approximating two years. 2. Employees of garages engaged in the handling and repairing of automobiles and employees of automobile service stations may show evidence of lead absorption and storage. In garages and stations in which ethyl gasoline was used, the amount of apparent absorption and storage was somewhat increased, but the effect was slight in comparison with that which was shown during the periods of exposures studied and was not sufficient to produce detectible symptoms of lead poisoning. 3. In the regions in which ethyl gasoline has been used to the greatest extent as a motor fuel for a period of between two and three years no definite cases have been discovered of recognizable lead poisoning or other disease resulting from the use of ethyl gasoline. In view of these conclusions the committee reported that in its opinion there are at present no good grounds for prohibiting the use of ethyl gasoline of the composition specified as a motor fuel, provided that its distribution and use are controlled by proper regulations."

**RUBBER.** During the meeting of the American Chemical Society held in Philadelphia in September, a symposium was held at which the latest knowledge affecting the results of botanical, chemical, technical, and engineering research in the United States and abroad was presented. Leading rubber technologists and executives of the industry discussed raw rubber developments, including scientific progress in the plantation rubber industry; in wild rubber, South American and African; and in synthetic or artificial rubber, to perfect which commercially scientists of all civilized nations were uniting in a common procedure. After more than a year of research Lendner and Monte Cambern announced that they had perfected a method by which rubber might be profitably extracted from shale. Almost unlimited quantities of oil shale are available in the vicinity of Perris and Elsinore in California. Eugene Royer, a French engineer, announced in January that he had perfected a method of eliminating the by-products from old rubber and devulcanizing it. The process is in three stages: First, the rubber is submitted to a great pressure and exposed to a special gaseous mixture which devulcanizes the old rubber, eliminating sulphur and other chemicals. Second, it is liquefied by immersion in a catalyzer, which dissolves the rubber and discharges the cotton and other by-products because of their different densities. Third, the liquid rubber is forced through a sort

of clay porous filter which eliminates the catalyzer. The whole operation is said to be made in two machines, in which the catalyzer is used over and over again.

The organization of the American Anode, Inc., by the B. F. Goodrich Company, the Eastman Kodak Company, and the Anode Rubber Company, Ltd., of Great Britain was announced on October 27. This new corporation had for its purpose the manufacture in the United States of rubber goods under processes patented by Dr. Paul Klein of Budapest and Dr. S. E. Shepherd and Dr. L. W. Eberlin of the Eastman laboratories. The processes involve methods of compounding, milling, and vulcanizing rubber. Essentially the principle of the processes is electrolytic deposition of rubber on the anode, which serves as the form or mold. Methods of suspending compounded ingredients in the latex have been perfected, as well as means for maintaining a constant concentration of the latex mixture, without which the commercial development of the process was impossible. It was said greater durability and strength were imparted to the rubber produced by this process and that costs were lowered. Rubber bands no thicker than a thread were manufactured under the new process and were found to be so much stronger than ordinary bands as to defy breaking by the bare hand. Other articles, such as silken thin tobacco pouches, bathing caps, gloves, and hot water bottles, similarly were found to possess far greater strength and resiliency.

**SYNTHETIC WOOL.** Italian synthetic wool, which had recently been placed on the market, apparently cannot replace real wool. According to a report by Australian chemical and textile experts: The synthetic material consists of a mass of short lengths of fine fibres much resembling wool at first sight. Under the microscope the individual fibres appear to be very similar to the fibres of artificial silk. For instance, they appear as smooth-walled and cylindrical bodies striated in the direction of their length, and have none of the cross striations and serrations so typical of natural wool, and on which the latter's strength and spinning properties probably depend. The diameter of the fibre examined was fairly uniform, in the neighborhood of one-thousandth of an inch. From the point of view of fibre diameter, the artificial wool is fine enough, but as regards its felting, spinning, luster, and wearing properties little evidence was possible from a microscopic examination. It is claimed therefore the synthetic product is inferior to real wool because the absence of serrations means that the artificial fibre will not fit together as wool fibre does, and because the artificial fabric does not combine warmth and porousness in the way wool does. Nor does it possess the deodorant qualities of wool.

**GLASS.** Glass which can be bent or broken without splintering and which will bounce if thrown on the floor, was announced. It is as transparent as ordinary window glass, non-inflammable, and remains clear under all atmospheric conditions. It is hard enough to be safe from accidental scratching, but it can be broken by the bare hand without risk of cuts, as the glass breaks without jagged edges. It is only half the weight of ordinary glass. It was invented in Austria and its use has been recommended for automobile shields.

**COLORING GEMS.** According to Dr. C. Everett



Field, director of the Radium Institute in New York City, it is possible to change yellow diamonds, which are comparatively cheap and plentiful, into valuable blue-white diamonds by means of a radium treatment. The process consists in placing enough radium near the diamonds to draw off the impurities in the stone which cause the yellowish color. If more radium is used, the change will occur more rapidly. The quantity is also governed by the relative hardness of the jewel. It was found that 100 milligrams of radium, worth about \$8000, will change one diamond in four days' time. The experiments extended over four years, and in that time no stone which had been changed to blue-white reverted to its original hue. Experiments were under way with other precious stones, beginning with the emeralds, to discover how they would be affected by the radium treatment. These experiments were made with diamonds, silicas, and other glasses and the results so far lead to the belief that the change is permanent.

**PAPER.** Successful experiments conducted in the Forest Products Laboratory of the University of Wisconsin resulted in the production of paper from eucalyptus wood grown in São Paulo, Brazil. A small roll run through the press of a newspaper showed favorable printing quality and ample strength for use in high-speed presses. This paper can be produced at about half the cost of the present imported news print. The eucalyptus can be grown in California, New Mexico, Arizona, and Florida, where the climate is such that the tree would probably reach pulpwood size in less than ten years, giving what research workers believe will be a perpetual supply of paper to fill the shortage due to depletion of spruce.

A report from Bombay, India, dated October 9, says that forest research experts in India have discovered how to use bamboo as pulpwood in the manufacture of white paper. The process has been perfected after 15 years' experimenting by the Forest Research Institute and College at Dehra Dun. It is said that by the new process India will be in a position to supply the paper demands of a large part of the world. The bamboo, which has been looked upon for centuries as useless, now seems destined to assume a prominent place among the national resources of the British empire. Plans for the erection of pulp mills and paper factories are being fostered by several provincial governments in India.

**NEW TANNING ACID.** Researches by W. E. Emley of the Bureau of Standards at Washington show that a treated and concentrated extract made from the waste liquors in the manufacture of paper pulp can satisfactorily be used for tanning hides, particularly when blended with the ordinary vegetable tanning material. Inasmuch as this waste can be obtained for nothing, the only expense being freightage to the point of use, the cost of tanning may consequently be very materially reduced. Most pulp factories are located along streams, and this waste pumped into the waterways causes pollution and has given rise to many law suits. To pump it instead into large vats and sell it offers a new source of revenue.

**PROTECTIVE PAINT.** The loss to the world due to the rusting of iron runs into millions of dollars, and the problem of its prevention has been studied by many scientists. Zinc, tin, nickel,

and ordinary lead paint are useful preventives, but they do not last and have to be reapplied frequently. A discovery by Dr. A. V. Blom of Berne, Switzerland, of a new lead paint which affords complete and permanent protection to iron was announced in June. It is made by melting lead in an electric furnace and blowing through it air and certain reducing gases, so that a dross or scale is produced which consists of colloidal, or extremely finely divided lead dispersed in yellow lead oxide. When it is powdered and mixed with a specially prepared linseed oil, and applied to an iron surface, very minute particles of lead separate out and gradually penetrate into the surface of the iron. The presence of the lead in the treated iron has been proved by photomicrographs and by chemical analysis. Iron objects painted with this new pigment have not shown any signs of rusting after prolonged exposure, or after being heated in steam.

**SUGAR.** By a chemical process that is known as acetylation the United States Bureau of Standards has produced a very rare sugar known as gentiobiose, which, although of no great commercial significance, is expected to prove valuable to industrial chemists in studying problems in the manufacture of corn sugar. The sugar is an extract of the waste liquor known as hydrol which results from the manufacture of crystalline corn sugar or dextrose, and has caused apprehension in the sugar industry because of its quantity and undesirable influence on the duration of the manufacturing process and sugar yield. The name gentiobiose was given to the by-product because up to this time the gentian root had been known as the only source.

**CRYSTALLINE INSULIN.** In a significant address—the sixth annual Pasteur lecture—given in February before the Chicago Institute of Medicine, Prof. John J. Abel of the Johns Hopkins University made public announcement that he had obtained a crystalline form of insulin and exhibited a small specimen of the product. Lantern slides showed the crystals to be rhombohedral, but other data were not presented. The chemical and medical world will await with great interest further developments, particularly the proof of the identification and chemical constitution of the product.

**THYROXIN.** Of the many and recent applications of chemistry to biology it has been said that: "The researches of E. C. Kendall leading to the isolation and identification of thyroxin have given new insight into the action of the thyroid; like epinephrine, the pure substance is at the disposal of the physician. The artificial preparation of thyroxin is only a question of time and effort, and one more outpost of the bulwarks of life will thus have been conquered by the chemist."

**CHEMILUMINESCENCE.** Such is the term applied to a new kind of light caused by chemical reactions which involve no burning or combustion. The materials which had proved most successful in this capacity were chlorine gas and sodium vapor. These two elements brought together in this form combine to produce sodium chloride, or common table salt, giving off in the process a brilliant yellow light. About one-tenth of the energy involved in this reaction is converted into light. It was expected that tubes of this material would find practical use for special scientific experiments and among surgeons, due to the fact

that the light they give off is of only one color and not composed, like ordinary daylight, of all the colors of the spectrum. Following somewhat similar lines a method had been devised in the United States for making luminous compounds. According to a patent granted in 1926 the phenomenon of phosphorescence can be produced by the reactions of two classes of substances known as "luminophores" and "phosphorogens," with a base of some mineral carbonate and a combustible material such as starch or sulphur. Luminophores are compounds of the lighter metals, such as sodium and potassium, while the phosphorogens are compounds of heavier metals, such as silver, nickel, and the radioactive uranium and thorium. These latter make the limestone base phosphoresce and the former impart the desired color to the glow.

**A NEW THERMOMETER.** It was announced in January that a thermometer capable of registering a temperature of more than 1800°F. had been developed in the Thomson Research Laboratory of the General Electric Company in Lynn, Mass. Instead of glass, which would melt at a much lower temperature, fused quartz was used for the stem and bulb of the new instrument. Mercury, which would boil and explode at such a heat, was eliminated and gallium, one of the rarer metals, was used. A temperature of 1000°F. is the maximum which the mercury-in-glass thermometer can stand and such thermometers are inaccurate at high temperatures, according to experts.

**NECROLOGY.** Conspicuous among those who died during the year were: Albert Brown Lyons, Government chemist for Hawaii (died, Apr. 13, 1926); Edward Swoyer Breidenbaugh, professor of chemistry and mineralogy at Pennsylvania College (died, Sept. 5, 1926) and Auguste J. Rossi, a consulting chemist of New York City and a winner of the Chandler medal (died, Sept. 18, 1926).

**CHESAPEAKE AND DELAWARE CANAL.** See CANALS.

**CHESS.** Two master chess tournaments were held in the United States during 1926, in both of which prominent European experts participated. The first tourney took place at Lake Hopatcong, N. J., José R. Capablanca, the world champion, being the winner with six victories and two defeats. Next in order came Kupchik, Maroczy, Lasker and Marshall, the United States champion. Marshall won the tourney that was conducted by the Western Chess Association at Chicago, Maroczy and Torre tying for second honors.

Among the leading tourneys held in Europe was the annual Hastings Congress where Alekhine and Vidmar finished in a deadlock for first place. Spielmann triumphed at Semmering with Alekhine second. Nimzowitch was the winner at Dresden, Alekhine again finishing second. Gruenfeld and Monticelli divided the honors at Budapest while in the Berlin tourney Bogoljubow won.

New York University for the second successive year won the championship of the Intercollegiate Chess League, Princeton carrying off the laurels in the "H.Y.P.W. Chess League" (Harvard, Yale, Princeton and the United States Military Academy.)

**CHESTNUT BLIGHT.** See FORESTRY.

**CHICAGO ART INSTITUTE.** See ART EXHIBITIONS; ART MUSEUMS.

**CHICAGO SANITARY DISTRICT.** See SEWERAGE AND SEWAGE TREATMENT.

**CHICAGO, UNIVERSITY OF.** An institution of higher education situated on the Midway Plaisance of the Chicago South Park system, Chicago, Ill.; founded in 1890, largely through gifts of John D. Rockefeller. The University, with its affiliated institutions, occupies for educational purposes over 50 buildings and 180 acres of land, including the site of the Yerkes Observatory at Williams Bay, Wis. The net total registration for the fall quarter of 1926, exclusive of 6000 in the home study department, was 7724, distributed as follows: graduate school of arts, literature, and science, 1337; undergraduate school of arts, literature, and science, 2828; divinity school, 167; medical courses, 205; Rush Medical College, 308; law school, 417; school of education, 134; school of commerce and administration, 472; graduate school of social service administration, 87; university college, 2146. The summer quarter enrollment for 1926 was 6532. There were 678 faculty members above the rank of assistant.

The total productive endowment of the University in September, 1926 was \$36,035,929.86, and its total resources, including buildings and land, approximated \$64,000,000. In the autumn of 1926 a drive to increase the resources of the University resulted in subscriptions designated chiefly for endowment by the alumni amounting to over \$2,000,000 and by others to over \$7,000,000. Available for medical instruction and research was an endowment of approximately \$17,000,000, including that of several affiliated institutions. The library contained 739,213 volumes and about 250,000 pamphlets. The University had obtained a practically complete set of all known Chaucer manuscripts.

During the year the grand stands at Stagg Field were enlarged to accommodate 48,000 spectators. Under the direction of the Oriental Institute of the University, excavations were carried on at Megiddo, Palestine, the ancient Armageddon, as well as the investigation and research conducted at Chicago House, Luxor, Egypt. A gift of \$37,500 was made toward this work by John D. Rockefeller, Jr., in addition to his gift of \$25,000 in 1925 for the purchase of a remarkable collection of Phœnician monuments. In 1926 the General Education Board contributed \$250,000 for the endowment of the Institute and \$30,000 for alterations in the Haskell Oriental Museum. The Carnegie Corporation granted \$1,385,000 for the establishment of a graduate library school to organize research and instruction around the broad conception of a library as a tool of education and research. Dr. Frank Billings of Chicago endowed by a gift of \$25,000 the Frank Billings Library. Mrs. Anna L. Raymond of Chicago gave \$100,000 to found the James Nelson and Anna Louise Raymond professorship for instruction and research in the Medical School, and Edwin Francis Holmes bequeathed \$50,000 to establish the Edwin F. Holmes Fund for Medical Research. By the will of Harriet G. Smith the University received \$283,000 to establish and maintain a hospital for contagious diseases in connection with its medical school. Buildings under construction or completed during the year, involving an expenditure of about \$8,500,000, included the University Chapel, seating capacity 2000, buildings for the Medical School, one of which was the Albert

Merritt Billings Hospital, the Whitman Laboratory for Experimental Zoölogy, the Rawson Laboratory, the Joseph Bond Chapel of the Divinity School, and Wieboldt Hall for the use of the Department of Modern Languages and Literatures. President, Max Mason, Ph.D., LL.D.

**CHILD FEEDING.** See FOOD AND NUTRITION.

**CHILD LABOR.** Despite the difficulties of obtaining immediate success, agitation for the ratification of the proposed Federal child labor amendment in the United States was continued by various interested bodies. The American Federation of Labor, at its October convention, stressed the need of national measures to combat this social evil, and President Green made a number of speeches during the year urging both state and Federal action. The National Women's Trade Union League, at its Kansas City convention, also voted to regard the ratification of the Federal child labor amendment as of first consideration.

**PRESENT CONDITIONS.** An indication of the wide-spread prevalence of child labor in the United States is furnished by the brief but incisive report of the Executive Council of the American Federation of Labor to the 1926 convention. Basing itself upon the census returns and upon special surveys, the report names the following states as having the largest numbers of child workers between the ages of 10 and 15: Georgia, 89,000; Alabama, 84,000; Texas, 81,000; Mississippi, 70,000; South Carolina, 64,000; North Carolina, 62,000; Pennsylvania, 56,000; New York, 50,000.

The same report gave the results of an investigation in the beet and vegetable fields of Colorado: "The children do exhausting work in the hot sun, hoeing, weeding, pulling vegetables; 650 children were found working in three counties; 24 per cent were nine years or under. Hours—average nine and one-half a day, ten in beets. Schools—three-fifths of all children and nine-tenths of migratory children missed school for work; nearly 50 per cent of all children and 80 per cent of migratory children were retarded."

A survey of industrial home work among children in New Jersey cities was conducted by the United States Children's Bureau during the year. In Newark alone 849 children were found working in the 459 homes visited as representative of the families doing industrial home work. "Speeding up" of the children was common, the bureau reports, particularly in the seasonal industries. "Although the children as a rule work irregularly," it is stated, "they may be kept at their tasks for long hours during the season when employers are giving out large quantities of work. Even while school was in session 13 per cent of the children worked four, five, and six hours a day, which meant night work for many of them." The State of New Jersey licenses all industrial home work and is supposed to revoke the licenses whenever children are drawn into the service. Great difficulty is reported in enforcing this provision, and the State department of labor has urged the amendment of the law so as to punish the employers or contractors in case of violation of the child labor statute.

The Children's Bureau also made a comprehensive survey of the number of children between the ages of 14 and 16 receiving employ-

ment certificates. The results are indicated by the accompanying table:

State and city	1924	Per cent of increase (+) or decrease (-) as compared with 1923		Per cent of increase (+) or decrease (-) as compared with 1924	
Alabama .....	911	.....		1,005	+ 10.3
Birmingham ...	149	- 37.9		179	+ 20.1
California:					
San Francisco ..	243	- 36.2		267	+ 9.9
Connecticut .....	5,995	.....		7,605	+ 26.9
Bridgeport .....	605	- 41.4		785	+ 29.8
Hartford .....	572	- 38.2		676	+ 18.2
New Britain ....	848	- 30.8		478	+ 37.4
New Haven ....	810	- 34.4		927	+ 14.4
Waterbury .....	540	- 23.2		634	+ 17.4
District of Columbia	412	- 13.1		134	- 67.5
Illinois:					
Chicago .....	5,443	.....		4,962	- 8.8
Indiana .....	1,109	.....		966	- 12.9
Indianapolis ...	286	- 60.6		255	- 10.8
Kansas .....	94	.....		63	- 33.0
Kentucky .....	841	.....		889	+ 5.7
Louisville .....	640	- 19.5		547	- 14.5
Louisiana:					
New Orleans ...	2,288	- 8.1		2,506	+ 9.5
Maryland .....	3,768	.....		4,132	+ 9.7
Baltimore .....	3,526	- 14.9		3,948	+ 12.0
Massachusetts ..	13,296	.....		15,230	+ 14.5
Fall River .....	789	- 50.0		1,134	+ 43.7
New Bedford ...	1,085	- 24.6		1,452	+ 33.8
Michigan:					
Detroit .....	361	+ 30.3		410	+ 13.6
Minnesota:					
Minneapolis ...	165	- 45.2		196	+ 18.8
St. Paul .....	185	- 10.6		180	- 2.7
Missouri:					
St. Louis .....	3,366	- 32.4		3,528	+ 4.8
New Hampshire ..	466	.....		516	+ 10.7
New Jersey .....	16,619	.....		17,820	+ 7.2
Jersey City .....	1,574	- 25.0		1,593	+ 1.2
Newark .....	2,193	- 12.6		2,237	+ 2.0
Trenton .....	784	- 19.5		920	+ 17.3
New York:					
New York City ..	32,163	- 11.9		32,814	+ 2.0
Rochester .....	1,580	- 18.1		1,893	+ 16.0
Yonkers .....	284	- 65.1		384	+ 35.2
Oklahoma .....	304	.....		282	- 7.2
Pennsylvania:					
Philadelphia ...	8,289	- 24.2		10,849	+ 24.9
Pittsburgh .....	1,864	- 32.9		2,028	+ 8.8
Reading .....	903	- 19.6		1,155	+ 27.9
Tennessee .....	2,540	.....		3,062	+ 20.6
West Virginia ...	743	.....		570	- 23.3
Wisconsin:					
Milwaukee ....	1,926	- 49.0		2,481	+ 28.8

The bureau states that the children between 14 and 16 years of age receiving work permits in the places reporting to the bureau are probably more than half the total number of these ages going to work throughout the country in occupations for which permits are required. The bureau adds: "Although they include neither the large number entering occupations such as farm work and domestic service, for which no certificate is required, nor those going to work without complying with the law, the statistics are representative of conditions in all sections of the United States and in most of the important child-employing centres as regards at least the legal employment of children of work-permit age."

**STATE ACTION.** A *Rhode Island* law raised the educational requirement for employment certificates for children from the completion of the sixth to the completion of the eighth grade, with the alternative of eight years' school attendance. The law also requires a child to attend school until he is 15 even though he has completed the eighth grade, and changes the requirements as to special employment permits for

mentally defective children and for children working outside of school hours and during vacation.

A Louisiana law established a maximum 8-hour day and 48-hour week for children under 16, improves the provisions as to the issuance of employment certificates for children going to work, and requires a certificate of physical fitness as a prerequisite to an employment certificate. The law goes into effect July 1, 1927.

Both New York and Virginia passed laws affecting to some extent the hours of work of minors over 16. In New York State such minors are required to attend continuation schools for a few hours a week until the age of 17.

**INTERNATIONAL ACTION.** At the annual meeting of the Child Welfare Committee of the League of Nations, held in Geneva in the spring of 1926, a resolution was passed expressing the hope that the International Labor Office would continue to make representations to the governments for the ratification of the international child labor convention.

**CHILD WELFARE.** The activity in this field of social welfare continued undiminished. One need only read the Child Welfare news summary published by the Federal Children's Bureau to get an idea of the extraordinary enterprise characterizing not only most of the States of the Union but all civilized nations as well. There are being carried out currently examinations into and legislation on every phase of child training, psychology, and care. One reads at the same time of child-care programmes launched by the American Legion, the League of Nations, the State of Kentucky, and the countries of China and Spain. In New York, a study is made of the health of street newsboys, in Kentucky of midwifery and infant mortality, in the South of the heights and weights of negro children as compared with whites. And so it goes.

An example of this great preoccupation is furnished by the work of the Federal Government. In the fiscal year 1926 nearly one million babies and 180,000 expectant mothers were reached by the national programme for the betterment of maternal and infant health. This work was carried on by 43 States with the co-operation of the Federal Children's Bureau. As a result of the passage of the Maternity and Infancy Act in 1921 the Federal government pledged itself to aid those States expressing a willingness to coöperate. By 1926, 43 States and Hawaii had accepted the Act.

The size of the programme may be indicated by the fact that during the year 20,155 prenatal and child health conferences were held, where 10,554 mothers and 159,244 children received health examinations.

There is considerable ground for pride as a result of this work, but great work still remains to be done. In no field so much as maternal mortality and morbidity, perhaps. In an important survey conducted by the Children's Bureau, these facts were adduced: Maternal mortality rates in the United States are to-day among the highest in the civilized world. There has been little, if any, downward trend since 1900. The countries of Denmark, Finland, Italy, Japan, the Netherlands, Norway, Sweden and Uruguay have rates less than half that of the United States. In 1921 some 20,000 women died in child birth making the rate 6.8 per

1000 live births. The 1924 rate was 6.6. Analysis of the causes of maternal deaths showed that two-fifths of the deaths were due to puerperal septicemia and almost 100 per cent preventable through careful asepsis. Other causes of death were puerperal albuminuria, and convulsions (both preventable through adequate medical care during the prenatal and confinement periods) and accidents of pregnancy, hemorrhage and accidents of labor.

Certain factors are important in fixing the rate. It was established that the risk of maternal death was greater in plural births and for mothers under 15 and over 45. The lowest rate was found to be among mothers between 20 and 24. Poverty played an important rôle. Also the negro maternal death rate was 67 per cent higher than the white rate. However, the rate for foreign-born white mothers was slightly lower than for native-born white mothers, the lowest rate in the foreign group being for mothers born in Russia. Next came the Italian-born group.

The report had this to say about prevention: "Almost all the mortality from puerperal septicemia is preventable. Puerperal septicemia is infectious in origin, and its prevention depends upon the vigorous observance of asepsis. The Australian Committee appointed to study the causes of death and invalidity in the Commonwealth states: 'Puerperal septicemia is probably the greatest reproach which any civilized nation can by its own negligence offer to itself. It can be prevented by a degree of care which is not excessive or meticulous, requiring only ordinary intelligence and some careful training.'"

**PUBLIC AID TO DEPENDENT CHILDREN.** From 1909, when the idea was first broached, to 1926, 42 States put on their statute books acts authorizing assistance for dependent children in their own homes. These acts are variously called "mothers' pensions," "mothers' allowance," "mothers' assistance fund," "widows' compensation," "aid for dependent children," etc. The six States which have not yet passed such legislation are South Carolina, Georgia, Alabama, Mississippi, Kentucky, New Mexico. In most States, to-day, such aid is being given to the mother whose husband is dead, or a deserter, or totally incapacitated, or imprisoned, or in an institution for insane, feeble-minded or epileptic. In fact, in only Maine, New Hampshire, Massachusetts, Rhode Island, Washington, Colorado, and Nevada is the language of the law general, and only in Utah, New Jersey, Connecticut, Maryland and Texas is aid given to widowed mothers only. Most States do not require citizenship or declaration (only 11 States do so); however, most States require a certain period of State residence. The surveyor (a member of the Federal Children's Bureau) sums up the general characteristics of these laws:

1. Application broad enough to permit aid whenever by such means a suitable home may be maintained.
2. Age limitation to conform with education and child labor laws.
3. Amount of aid to be based on the needs of each individual family, with due regard to other available resources.
4. Inquiry in each case to determine the home conditions and the assistance needed for the proper care of the children.

5. Continued oversight in order that the welfare of the children may be protected and the aid adjusted to meet changing conditions.

6. Provision of safeguards necessary to protect the public treasury against fraudulent or unwarranted claims and against burdens that should be borne by other communities or by individuals legally responsible and able to furnish support.

7. Administration lodged in the public agency best fitted to carry out the provisions of the law as a constructive child-welfare measure.

8. Appropriation adequate to carry out the purpose of the law, with respect both to funds required for aid and to expenses of administration.

9. Some form of general oversight by the State combined with educational activities to develop high standards in the work of the local administrative agencies.

**PUBLIC HEALTH.** The public health reports of the Metropolitan Life Insurance Co. are always important since its industrial policy-holders group constitute one-seventh of the population of the United States and Canada and one-fourth of the rural population. The 1925 figures were released early in the year. There were two items of importance, the decrease in the tuberculosis death-rate, and the decrease in the leading epidemic diseases of children. The tuberculosis death rate was 98 per 100,000 (a decrease of 50 per cent since 1915). The death rates for measles, scarlet fever and diphtheria reached their lowest points. The combined rate for these and whooping cough was 19.7 per 100,000 (a decline of 25 per cent from the former minimum rate). It is significant to note that the rate of 19.7 for all four diseases was less than the 1920 rate for diphtheria alone.

The history of the diphtheria rate was particularly significant. In 1925 the rate was 10.2; in 1920 it was 20.4. Another low record in diseases was reached in the puerperal diseases group where the rate was 16.9 per 100,000 as compared with 17.2 in 1924. Against this record must be placed that of the increasing automobile accidents rate. This was 16.7, an increase of 50 per cent over 1920. At least 40 per cent of automobile accidents resulting in death were among children under 15.

**INFANT MORTALITY.** The Census Bureau announced that the infant mortality rate, in the birth-regulation area, for 1925 was 71.5 as compared with 71.0 in 1924 and 77.7 in 1923. (Compare this with New Zealand's rate of 39.96 for 1925.) Maryland showed the highest rate with 90.4 and Oregon the lowest with 51.2. Note the infant mortality rates for these registration cities: New York, 62.4; Chicago, 74.8; Philadelphia, 70.8; Pittsburgh, 81.5; San Francisco, 55.5; Kansas City, 87.5. The American Child Health Association, in a study of city rates for 1925, tabulated returns for 632 cities in the registration area. The rate for these cities was 72.6. In the birth-registration area the cities having 250,000 population had a composite rate of 71.2; those between 10,000 and 25,000, 76. The lowest rate was 32 and was reached by Stonington, Conn. and Winona, Minn., both in the 10,000-25,000 class. The highest rate was 156, that of Martinsburg, W. Va., also in the above class.

**INSTITUTIONAL CARE.** An important bulletin was released by the Bureau of the Census indi-

cating the number of children under institutional care in 1923. An analysis of the figures reveals that 404,078 children were in institutions or under the supervision of child-placing agencies in the United States as of Feb. 1, 1923. Of these, 204,888 were in institutions, 51,164 in free homes, 22,281 in boarding homes, 121,441 under supervision in their own homes and 4904 were away temporarily from the institutions but still under supervision. Of the 204,888 in institutions, 122,557 were in institutions for dependent children, 10,001 were in institutions for adults and children, 5053 were under the care of child-placing societies; 22,822 were in day nurseries, and some 30,000 were in institutions primarily for delinquents. It was estimated that 121,000 were being supervised in their own homes as a result of public grants. It is interesting to note that 1992 children were in almshouses, 580 in public jails and 1650 in prisons and reformatories.

**JUVENILE DELINQUENCY.** An investigation— incomplete but important in that there are no data on this subject—conducted by the Children's Bureau showed a downward trend. Statistics were procured from the juvenile courts of New York, Philadelphia, Boston, Chicago, Buffalo, Detroit, Minneapolis, New Orleans, Providence, Richmond, Rochester, St. Louis, Seattle and Washington for the years 1915 through 1924, and in some instances for 1925. There were found decreased juvenile delinquency rates over the period in New York, Boston, Buffalo, Chicago, New Orleans, Providence, Richmond, St. Louis, and Washington. Increased rates were found in Detroit, Minneapolis, Philadelphia and Seattle. Comparisons between number of children committed to penal institutions as of 1910 and 1923 are illuminating. In 1910 the total number of delinquents between the ages 10 to 17, admitted to institutions was 24,854 or 171.7 per 100,000 of this age group. The figure for 1923 was 25,565 or 156.5 per 100,000. Thus, taking into consideration the growth of population there was a marked decrease over the period.

**RHODE ISLAND.** Early in the year the Rhode Island Children's Law Commission, appointed in 1925, made public its report. It recommended to the governor and legislature the enactment of some 27 measures the purport of which was the general strengthening of the State's welfare legislation. These particular proposals may be cited: Creation of a children's bureau in the State's Public Welfare Commission to concern itself with the protection of defective, dependent, neglected and delinquent children; the licensing of infants' boarding homes, maternity hospitals, day nurseries; extension of the activity of the juvenile court to cover neglected and dependent children, appointment of a State probation officer to organize a probation staff serving all the courts of the State; provision for the special treatment in adult courts of juvenile offenders charged with murder or manslaughter; the creation of a six-months' trial period in adoption cases; more adequate procedure for children born out of wedlock; the establishment of a joint natural guardianship for children.

Other laws recommended included: The raising of the compulsory school-attendance age to 18, unless a child is employed; establishing of special classes for mentally retarded children; permitting children of 14 to obtain part-time

work certificates; prohibiting night work for children under 16 years between 7 P.M. and 6 A.M.

In June, these 27 bills were presented, and all but 5 were passed; these five measures had to do with the regulation of child labor.

NOTES. Among the important conferences of the year was that held in Washington, January 11-13, by the State directors administering the Federal Maternity and Infancy Act. There were in attendance representatives from all the States but four. The exhibit attracted particular attention. These included midwife equipment, garments for mothers and babies, posters, etc. The following, among others, spoke: Dr. Robert L. De Normandie, Dr. William H. Davis and Dr. Douglas A. Thom.

An indication of the interesting progress being made was the creation by the National Research Council of a new child development committee. At the committee's first meeting some 28 research workers were in attendance. Dr. Bird I. Baldwin was elected chairman. Sub-committees were erected for the following purposes: To study animal development in relation to child development; to study the growth, nutrition, and mental hygiene of the child, and to study the research literature.

The Metropolitan Life Insurance Co., has approximated the cost, to a family of the \$2500 income class, of raising a child to the age of 18. The total cost is estimated at \$7238 and is made up of the following items: Cost of being born, \$250; food, \$2500; clothing and shelter, \$3400; education (minor items) \$50; health, \$284; recreation, \$130; insurance \$54; sundries, \$570. To this must really be added the cost of schooling supplied by the community which, in New York State, comes to \$1100.

**CHILE**, ché'la. A South American republic lying on the western Pacific coast of the southern part of the continent, extending from Peru to the southernmost point. Capital, Santiago.

**AREA AND POPULATION.** The extreme length of Chile is 2628 miles and the average width is 177 miles. At the census of 1920 the population was 3,754,723. The republic is divided into 23 provinces, subdivided into 82 departments and one territory (Magallanes). The populations of the principal cities, according to the census of 1920, were: Santiago, 507,296; Valparaiso, 182,242; Concepcion, 64,074; Antofagasta, 51,531; Iquique, 37,421; Talca, 36,079. The urban population made up 46.6 per cent of the total. The great majority of the population are of European descent. In 1920 the foreigners numbered 115,763, as against 134,524 in 1917. The natives comprise the Fuegians, for the most part nomadic and living in the southern territories; the Changos, civilized and employed as laborers, in the coast region; and the Araucans, who live in the valleys and on the western slopes of the Andes and number about 101,118. The movement of population in 1925 was: Births, 159,017; deaths, 116,943; marriages, 28,862. On Dec. 1, 1925, the population was estimated at 3,944,142. Immigration is small but is encouraged by the government.

**EDUCATION.** Primary instruction is free and compulsory. According to the latest available statistics there were 3769 public primary schools with 425,056 pupils and 9104 teachers, 484 private primary schools with 1490 teachers and 62,139 pupils, 15 public normal schools with 444

teachers and 2462 pupils, 97 public and 102 private secondary schools with 38,790 and 20,068 pupils, respectively, and 11 commercial schools with 187 teachers and 3187 pupils. There are various schools of mines, professional schools, and other special institutions. For higher education there are the University of Chile, belonging to the State, the Catholic University, and two industrial universities, situated at Valparaiso and Concepción. Other noteworthy institutions are the Pedagogical Institute, the National Conservatory of Music, the National Observatory, etc. There are in addition various lyceums and colleges maintained in the provinces.

**PRODUCTION, MINERALS, ETC.** The chief pursuits of the country are agriculture and mining. The agricultural zone lies in the centre of the country. The climate permits of the raising of tropical products as well as those of the temperate zone. Cereals are the leading crop and wheat is the most important. The acreage and production in metric quintals of the principal crops in 1925-26 were as follows: Wheat, 501,806 acres, 16,142,420 quintals; barley, 126,096 acres, 2,289,826 quintals; oats, 92,348 acres, 1,564,964 quintals; maize, 50,359 acres, 543,200 quintals; beans, 90,009 acres, 702,124 quintals; peas, 2823 acres, 21,940 quintals; potatoes, 68,074 acres, 270,890 tons; vines, 171,480 acres, 33,249,018 gallons of wine. Fruit growing has latterly increased and covers an area of about 20,000 hectares. On Jan. 1, 1924, the livestock of Chile comprised: Horses, 329,454; asses, 33,580; mules, 43,816; cattle, 1,995,538; sheep, 4,569,166; goats, 525,106; and pigs, 263,330.

Chile is very richly endowed with minerals. She is the second largest producer of copper in the world, the output in 1925 being 175,994 tons. Other important minerals are gold, silver, cobalt, manganese, coal (1,440,425 tons in 1925), nitrate, borate, salt, sulphur, guano, and iron ore. The iron resources have not been developed to any great extent but are reported to be very rich. The deposits are found in the provinces of Atacama and Coquimbo. The coal region lies to the south of Valparaiso. By far the most important item of commerce is nitrate of soda, which is found chiefly in the nitrate section of the desert of Atacama. According to the United States Bureau of Foreign and Domestic Commerce, it is doubtful if there exists a more barren stretch of coast line than that of northern Chile, yet beneath the surface of much of the sandy waste of the hinterland, commonly called the Desert of Atacama, lie valuable deposits of sodium nitrate, highly useful as a nitrogenous fertilizer and basic element in the manufacture of explosives and heavy chemicals, the exploitation of which has for many years furnished the chief source of national wealth. These nitrate deposits are most highly concentrated in the provinces of Antofagasta and Tarapaca and are situated 15 to 90 miles inland at an elevation varying from 3000 to 8000 feet above sea level. A total area of 91,000 square miles of Chile's approximately 300,000 square miles of territory is included within these provinces. The value of exports through the nitrate ports in 1924 was \$155,908,421, which represented 71 per cent of Chile's total exports during that year.

Up to the outbreak of the World War, Chile had virtually monopolistic control of the world's nitrogen supply. The Central Powers, being cut off from this supply, developed within their own

territory a large industry for producing atmospheric nitrogen to meet their needs for explosives. At the termination of the war, Germany converted its war plants to fertilizer factories. The total production of synthetic nitrogen in Europe now has reached such proportions and the price has been so reduced that its competition has destroyed the one-time monopoly of the Chilean producers of natural nitrates. The world consumption of nitrogen has increased tremendously, but in 1894 Chilean nitrates supplied 73 per cent of the world's nitrogen, whereas in 1913-14 they furnished 53 per cent and during 1925-26 only 26 per cent.

In December the Pan American Union published the following table which was taken from the latest annual statistical report of the Chilean government on the conditions of manufacturing industries within the country:

	1924	1923
Number of establishments	7,681	8,141
Capital (pesos, paper) . .	1,676,731,190	1,291,917,970
Number of employees and operators	90,641	89,475
Wages and salaries . . .	197,081,424	172,244,583
Number of machines . . .	31,287	28,272
Motors { Number . . .	5,949	5,375
Horsepower . . .	263,071	257,009
Fuel (value in pesos, paper)	40,604,554	38,515,393
Raw material (value in pesos, paper) . . . .	753,451,265	623,276,084
Annual production (value in pesos, paper) . . .	1,351,254,634	1,195,588,829

COMMERCE. According to the President's message of May, 1926, the foreign commerce of Chile in 1925 amounted to 1,034,045,200 gold pesos of which 407,792,592 pesos represented imports and 626,252,608 pesos exports. The following table from the *Statesman's Year Book* for 1926, shows the principal articles of export and import in 1925:

Imports		
	1924 Pesos	1925 Pesos
Coal . . . . .	3,451,896	2,856,351
Petroleum . . . . .	13,939,617	20,729,194
Sugar . . . . .	17,897,648	21,160,207
Paper . . . . .	8,996,558	8,074,823
Automobiles . . . . .	2,914,427	2,552,733
Tea . . . . .	5,036,957	4,472,786
Exports		
	1924 Pesos	1925 Pesos
Nitrate . . . . .	297,629,094	306,887,909
Iodine . . . . .	16,868,286	24,034,234
Wool . . . . .	10,788,043	19,932,254
Copper . . . . .	127,694,038	117,039,406
Borate of lime . . . . .	5,793,311	7,956,739
Frozen meat . . . . .	6,645,639	8,776,467

FINANCE. According to the President's message of May 22, 1926, the government receipts for 1925 were 542,450,389 paper pesos and 179,550,281 gold pesos, while expenditures for the same time were 635,252,447 paper pesos and 169,834,126 gold pesos, giving a deficit of 63,653,593 paper pesos after reducing the gold balance to paper. As the previous deficit accumulated from other years amounted to 34,155,000 paper pesos, uncollectable debts owing to the government to 40,283,960 paper pesos, and expenditures to which the government is obligated by various decree laws to 6,494,200 pesos, the deficit at the end of 1925 totaled 144,586,754 paper pesos. The external debt amounted on Dec. 31, 1925, to £26,083,092 and \$25,037,578, while the internal debt

was 4,220,000 gold pesos and 263,787,031 paper pesos. The gold guarantee of the nation was 406,078,572 pesos and the paper guarantee 42,358,000 pesos. The first Chilean loan in four years was issued in London, Jan. 20, 1926, by the Anglo-South American Bank, in the form of 6 per cent bonds of the Government of Chile, for an amount of £2,809,000, at 94. The issue was an immediate success, the lists only having been open for a few hours. The bonds will be redeemed by means of a cumulative sinking fund of one-half per cent per annum, to be applied yearly by drawings at par or by the purchase of bonds at or under par exclusive of accrued interest. The proceeds of the issue, which forms part of a total of £7,640,000 authorized, will be used to liquidate the outstanding floating debt amounting to approximately £1,000,000, incurred on port developments, and for the extension of similar works. The yield is approximately 6½ per cent, which is relatively low. The previous London issue on behalf of Chile—£1,657,500, 7½ per cent bonds at 95, made in 1922—afforded about one per cent more, and even at their current price of 102½ give a higher yield than these new bonds.

On September 2, the President of Chile sent to Congress the budget for 1927 which calculated the revenues at 890,854,046 pesos, while the expenditures were estimated at 1,029,342,706 pesos. However, these expenditures included items for which special funds to the amount of 122,460,000 pesos may be used. The loan from Blair & Co. is also to be canceled with funds from loans to be contracted for the conversion of the public debt. Therefore, the part of the budget of expenditures to be covered by ordinary revenues amounts to 906,882,705 pesos, which leaves under the present calculations a deficit of 16,028,659 pesos. It was hoped that much of this could be eliminated by a revision of the needs of the various ministries and a policy of economy.

COMMUNICATIONS. The shipping entered and cleared at the ports of Chile in foreign trade in 1925 was as follows: Entered, 1245 vessels of 3,348,338 tons; cleared, 1191 vessels of 3,247,319 tons. The railway mileage in operation in 1925 consisted of 9480 kilometers, of which 5840 kilometers were owned by the state and 3640 by private companies. The operations of the state railways according to their annual balance for the year ended Dec. 31, 1925, resulted in a profit of 8,026,325 pesos. Gross revenues amounted to 223,459,321 pesos and expenditures to 215,432,995 pesos. Total income of the northern system amounted to 12,784,166 pesos and its operating expenditures reached 18,432,372 pesos, showing a deficit for the year of 5,648,206. The Southern System received 210,075,155 pesos and disbursed 197,000,623, showing a surplus of 13,674,531 pesos. The gross revenues of these railways for 1925 exceeded that of 1924 by approximately 26,000,000 pesos but operating expenditures were also heavier. The total surplus, however, exceeded that of the previous year by approximately 3,000,000 pesos. The general balance sheet of the state railways places assets at 845,873,726, and liabilities at 910,496,212 pesos, or an excess of 64,822,486 pesos of liabilities over assets, after adding to the former the operating profits of 1925. The liability figures place the capital of these railways at 595,538,113 pesos, an arbitrary figure. However, as they are state owned, no amortization or interest charges are assessed



against them. Several liabilities, particularly foreign loans, are long-term obligations.

No large additions were made to the state railway system during 1925-26, but the government continued work on the railway line running from Pedegua to Petorca and from Iarrain-Alcalde to Pichilemu. It has also announced its intention soon to undertake construction of a line from San Clemente to Mariposas. Although bids were called for rolling stock to equip and place in operation the Iquique-Pintados railway, which was completed during 1925, budget difficulties prevented a definite decision by the government. Private railway lines proceeded with normal improvement but did not undertake large new construction programmes. Permission was sought by American interests which purchased the line of railway running from Tocopilla to Coya Norte to extend this line to Chuquicamata, a distance of 108 kilometers. It is planned to electrify this line from Tocopilla to the Station Central as soon as permission to proceed with the extension has been granted.

Serious damage was caused during the late part of September to railroads and telegraphic communications in Chile by snow storms of unprecedented severity. The Transandine route and the Longitudinal of Chile suffered complete interruption of service in the Andean region, and the line between Valparaiso and Santiago de Chile operated under great difficulty.

**GOVERNMENT.** According to the constitution which came into force on Oct. 18, 1925, legislative power is vested in the National Congress, consisting of the senate and chamber of deputies, both of which are elected by direct popular vote. The executive power is vested in the president who is elected for six years, and who is not eligible to succeed himself. The president is assisted by a cabinet, which is responsible to him, and the members of which may speak in congress but may not vote. President at the beginning of 1926, Emiliano Figueroa (assumed office Dec. 23, 1925).

**HISTORY.** For a discussion of the Tacna-Arica dispute consult the article on **ARBITRATION, INTERNATIONAL**. During the early part of the year the Chileans were in an almost continual state of unrest. The resignation of President Alessandri (see preceding **YEAR BOOK**) and the failure of the Tacna-Arica mediation on the part of the United States caused considerable upheaval of political stability. The Chilean parliament began its sessions on May 22 but accomplished very little in the way of constructive legislation. President Figueroa stated in his message that Chile was peaceful and orderly throughout the entire country.

In November the military party practically compelled the resignation of the entire cabinet. Señor Ibañez, the Minister of War and leader of the military group, was compelled to resign also by the other members of the cabinet refusing to get out of office unless he did also. He resigned individually while the other members resigned in a body. On November 21 a new cabinet was formed, in which Señor Ibañez was again made Minister of War. The new ministry was made up as follows: Premier and Minister of the Interior, Manuel Rivas-Vicuna; Foreign Affairs, Jorge Mattegormaz; Justice and Education, Alvaro Santa María; Finance, Alberto Edwards; Agriculture, Arturo Alemparte; War, Gen. Carlos Ibañez; Marine, Admiral Arturo

Swett; Public Works, Commerce, and Communications, Julio Velasco.

**CHINA.** A Far Eastern State forming the eastern part of Asia, on the Pacific Ocean, under a republican form of government after Feb. 2, 1912.

**AREA AND POPULATION.** China comprises 18 provinces, the so-called dominion of Sinkiang, the dependencies of Manchuria, Fengtien, Kirin, and Heilungkiang, and the regions over which only nominal authority exists, viz., Mongolia and Tibet. According to estimates made in 1912 the total area is 3,913,560 square miles, though more recent estimates have placed it as high as 4,227,170; population, estimated at that time at about 325,000,000; but later estimates greatly exceed this figure. For example, the total based on estimates of the Chinese Maritime Customs in 1924 was given at 444,653,000, with 19,290,000 additional for Manchuria. In the same year the Chinese Post Office estimated the total population of China and the outer territories at 436,094,953. The tendency among authorities is to give far greater credence to the lower estimates of the 1912 year, and in some quarters it is claimed that in the past ten years the population has increased little if at all.

There are similar divergences in the estimates of the population of the cities. According to the government estimate of 1921, the population of Peking and its suburbs was about 1,300,000. Another estimate places it at 924,334, including 4000 foreigners. The estimates for the chief Chinese ports in 1924 given out by the Chinese Maritime Customs were as follows: Shanghai, 1,500,000; Hankow, 1,646,800; Canton, 900,000; Hangchow, 340,200; Changsha, 535,800; and Soochow, 500,000. The total number of foreigners and foreign residents in China in 1924 according to the Chinese Customs authorities was 320,829, of whom 198,206 were Japanese; Russians, 85,766; British, 14,701; Americans, 8817; Portuguese, 3657; German, 2733; and French, 2715. The treaty powers in China down to the beginning of 1926 were as follows: Russia, Great Britain, United States, France, Norway, Sweden, Denmark, Netherlands, Spain, Belgium, Italy, Peru, Brazil, Portugal, Japan, Mexico, Chile, Switzerland, Bolivia, Persia, and Japan. Of these powers, Germany, Bolivia, Persia, and Chile have renounced the consular power.

**EDUCATION AND RELIGION.** There are two kinds of primary schools in China, the higher and the lower. The former are established by district governments and are intended as intermediate schools between the lower primary schools, and the middle schools. In 1923 the total number was 10,236 with 582,579 pupils. In the same year there were 167,076 lower primary schools with 5,814,375 pupils in 1923. At the beginning of 1926 there were 10 government universities. Tsing Hua College, a special institution, was establishing near Peking, to prepare students for education in the United States, under the agreement on the part of the United States to return the Boxer indemnity for that purpose. There is a modern university for Chinese under British direction at Hongkong which is attended by students from many parts of China.

There are three forms of native religion, Confucianism, Buddhism, and Taoism. Besides these three there are Mohammedans in all the provinces, whose numbers have been estimated at



5,000,000 to 10,000,000. Roman Catholicism at the end of 1923 maintained 57 bishops, 1481 European priests, 1071 native priests, and the native Roman Catholics numbered 2,208,800. The Protestant missions in 1920 had 6636 engaged in their service and the Chinese Protestants numbered 618,601.

**PRODUCTION.** The following account of agricultural conditions in China is derived from the United States Department of Foreign and Domestic Commerce. After stumbling along by himself for centuries the Chinese farmer is at last to find help; or, rather, he is being put in a position to help himself. The China International Famine Relief Commission has instituted a system of rural coöperative credits among China's farmers, and the movement was reported in 1926 to be making remarkable headway. The tools of the Chinese farmer have been like those of the Chinese craftsman, the primitive implements of his ancestors. He has never had the money to equip himself with anything else. From prehistoric ages he has been the victim of the rapacious and the predatory—brigands, usurers, military tax gatherers—those who acquire gain by craft or force rather than by production. Unbelievably poor, and helpless to improve his condition, the farmer has never been able to produce more than enough for the immediate indispensable use of his family. When floods or drought overtook him his first recourse was to pawn his few personal effects. The farm equipment was pledged next, and, finally, his small piece of ground. For the money lender's loan he has had to pay, in all times past, an exceedingly high rate of interest—usually 36 per cent per annum. Generally he has had to borrow again to meet his interest obligations, and in the case of renewals he has had to pay a still higher rate. It is no matter for surprise that in recent years the tendency has been for the small landowner to be replaced by the tenant farmer, the land itself thus passing into the control of great landholding lords, much to the detriment of China's population and its productive capacity.

The rural coöperative system inaugurated by the Relief Commission is designed to relieve this situation by making it possible for the small landowner to obtain the funds required for increasing his productive capacity at reasonable rates of interest. Briefly stated, the plan has been to form local coöperative societies throughout the country of the type worked out by Raffelsen in Germany after the famine of 1846-47. Every society may have not less than 12 members, each of whom must subscribe to one share of stock in the organization and accept unlimited liability for all obligations incurred by the society. Loans are then advanced to the society by the relief commission, the security being the combined credit of all the society's members. The society in turn loans from these funds to each of its members according to his needs. Loans can be made only to members, the total advances to each society and to its individual members being limited by charter.

The coöperative credit loans are advanced for a period of one year instead of the three-month term usually set by Chinese local or professional money lenders. The rate of interest is 6 per cent on moneys loaned by the relief commission to the society, but the societies are permitted to charge their members a maximum of 12 per cent.

This is one-third or less, of the rate charged by the money lenders, but it insures a profit to the societies and allows them to acquire a working capital of their own in addition to the funds advanced by the commission. With careful management, in the course of a few years the societies are thus enabled and are expected to become independent of the funds from the relief commission. The advantages to the Chinese farmer from this system are obvious; he pays but one-third the usurers' rate, he does not have to pledge his clothes and tools as collateral, he is debtor only to his friends or neighbors who are with him in the project, and he shares in the profits made by the society.

Among the principal crops of China are wheat, barley, corn, millet, and other cereals, peas, beans, rice, sugar, indigo, cotton, silk, tea, and a great variety of fruits. For the development of industrial enterprises in China for the past decade consult the paragraph on *Production* in the article CHINA in the preceding YEAR BOOK.

**COMMERCE.** The foreign trade of China during 1925, measured in gold values, recorded a slight decline in imports and a material increase in exports as compared with the previous year, with a resultant decline in the unfavorable balance. Import values totaled \$808,091,000 in 1925 as compared with \$841,673,000 in 1924; exports reached \$649,822,000 in 1925 against \$625,145,000 in the earlier year.

The share of the leading foreign countries in the export and import trade of China is shown in the following table:

CHINA'S FOREIGN TRADE BY COUNTRIES

<i>Countries</i>	<i>1924 Per cent</i>	<i>1925 Per cent</i>
<i>Gross imports from</i>		
Japan . . . . .	23	31
Hongkong . . . . .	23	18
United States . . . . .	18	15
Great Britain . . . . .	12	10
India . . . . .	4	5
Netherlands East Indies . . . . .	2	4
Germany . . . . .	4	3
Other . . . . .	14	14
<b>Total . . . . .</b>	<b>100</b>	<b>100</b>
<i>Gross exports to</i>		
Japan . . . . .	26	24
United States . . . . .	13	18
Hongkong . . . . .	22	15
France . . . . .	6	8
Russia . . . . .	6	6
Great Britain . . . . .	6	6
China . . . . .	4	4
Germany . . . . .	2	2
Other . . . . .	15	17
<b>Total . . . . .</b>	<b>100</b>	<b>100</b>

Declared exports from China to the United States during 1925 totaled \$159,502,913, compared with \$129,133,386 in 1924 and \$176,965,503 in 1923. These totals represent the combined returns for all American consulates in China. The increase in 1925 is remarkable in view of the numerous serious obstacles to trade during the period, and is an excellent illustration of the vitality of China's trade. The bulk of the increase in 1925 was due to raw silk, wool, egg products, furs, wool carpets, intestines, antimony, goat and kid skins, shelled peanuts, and bean oil. The only important declines were in wood oil, straw braids, laces and embroideries, hair nets, and peanut oil. The accompanying table

lists the value of the more important commodities in the 1924 and 1925 trade:

DECLARED EXPORTS FROM CHINA TO THE UNITED STATES

Items	1924	1925
Frozen egg products .....	\$54,180	\$839,674
Dry egg albumen .....	2,386,933	3,409,202
Dry egg yolk .....	779,602	1,482,548
Furs, dressed and undressed, "all other" ..	6,337,233	10,595,204
Goat and kid skins .....	2,996,615	4,770,704
Intestines, etc. ....	2,784,023	4,921,803
Fur skins .....	1,236,866	1,153,735
Shelled peanuts .....	2,552,663	3,152,158
Shelled walnuts .....	479,398	801,207
Bean oil .....	808,402	1,590,340
Tea .....	1,796,682	2,561,013
Wood oil .....	12,010,691	11,715,999
Peanut oil .....	2,216,900	1,288,800
Raw cotton .....	4,037,475	4,429,268
Wool carpets .....	4,430,960	4,903,883
Sheep wool .....	12,913,826	16,010,798
Raw silk .....	25,753,237	38,371,441
Wild silk .....	2,474,237	3,692,886
Waste silk .....	2,816,668	4,210,460
Cotton laces and embroideries .....	3,305,266	2,826,936
Straw braids .....	1,602,464	469,082
Hair nets .....	1,650,964	1,029,469
Antimony, regulus .....	600,801	2,344,458
Gold bars .....	3,844,238	100,171
All other .....	29,263,562	32,831,674
Total .....	\$129,138,386	\$159,502,913

FINANCE. The Chinese Maritime Customs, originally established to insure collections on an equitable basis of import and export duties on foreign goods, and salt administration are the principal revenue-producing agencies of the Peking government. The customs service is supervised by foreign officers under the direction of an inspector general. The Maritime Customs took over the administration of native customs within 15 miles of treaty ports. For the year 1925 revenue from these two sources amounted, respectively, to approximately \$58,477,000 and \$3,972,400. The 1925 collections were the largest in the history of the Maritime Customs administration; but the increase over the preceding year was not as great as in previous years, due chiefly to the disturbed conditions in China during 1925. Against the customs revenue, estimated at approximately \$48,353,000 for 1926, there was being charged the service of the Russo-French loan of 1895, the Anglo-German loans of 1896 and 1898, and the Boxer Indemnity payments, the reorganization loan of 1913, and a number of domestic loans. After payment of administrative expenses, all foreign loan and indemnity obligations, including the reorganization loan, were met in full.

In addition to the revenues discussed, the Chinese government receives certain income from wine and tobacco taxes, stamp taxes, and the Peking octroi. Returns from these sources were not available for 1925, but estimates based on previous years indicated that their yield may have been around 4,500,000 silver dollars. The total revenue of the Chinese government thus approximates 200,000,000 silver dollars. The amount actually left for the administrative expenses of the government, however—after deducting sums retained by provincial and military authorities through whom these funds pass, the amounts required for the service of various external and internal loans, and various subsidies and grants to military commanders—is, according to an estimate made by the Chinese Government Commission for the Readjustment of

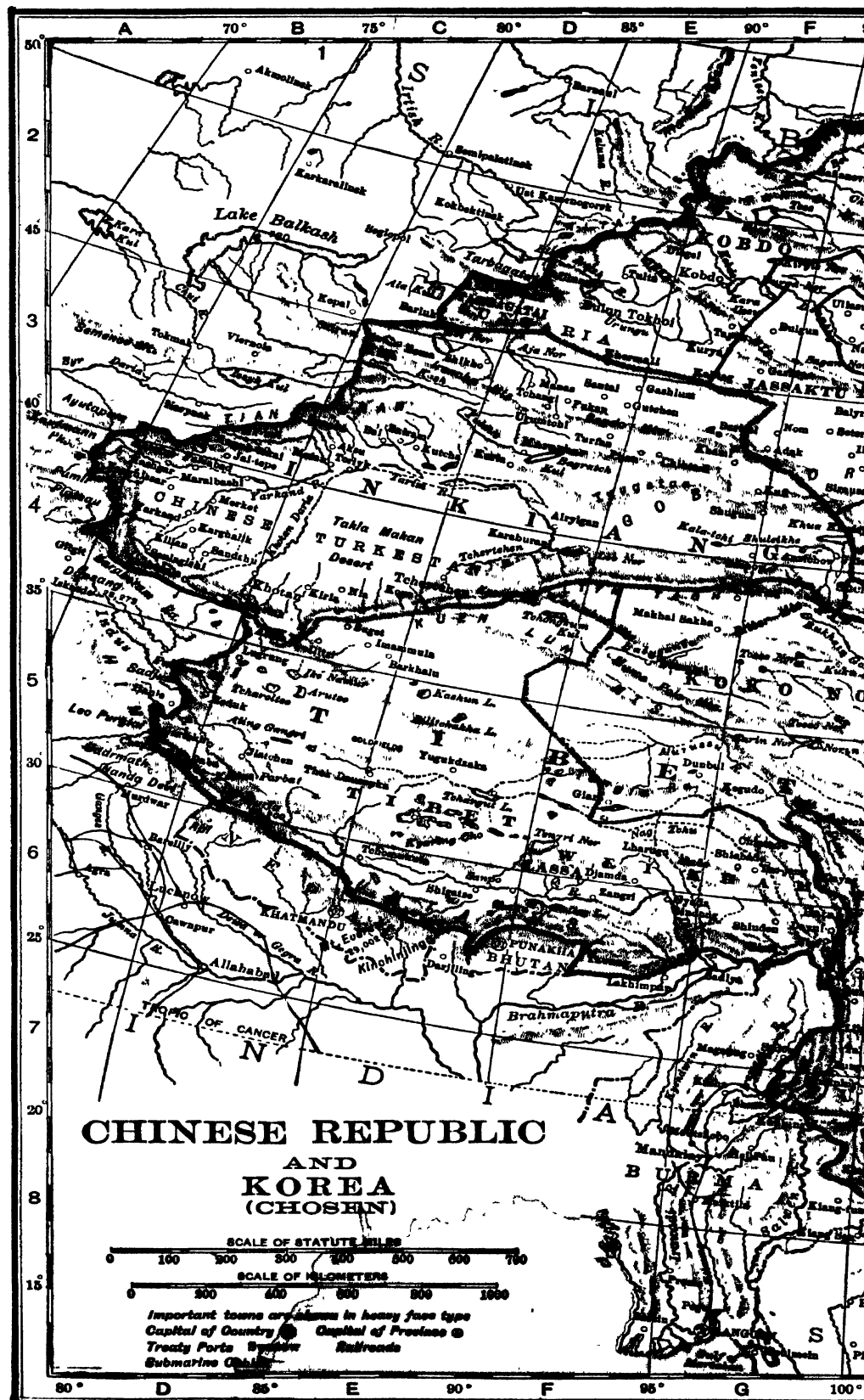
Finance, not more than 7,000,000 dollars annually.

The unsettled conditions in China make it impossible to state the actual expenditure of the government. The commission mentioned estimated the annual administrative requirement (excluding debt service) of the Peking government, under normal conditions and with a unified country, at 197,545,000 silver dollars. M. Padoux, adviser to the Chinese government, on the other hand, in a study made in September, 1925, concluded that the government could be operated on 2,620,000 dollars a month for administrative expenditures and 1,380,000 dollars for military expenditures, or 48,000,000 dollars a year; but his estimate does not include self-supporting ministries and organs, the expenses of which are deducted from receipts. During 1926 the problem of providing additional revenue for the Chinese government, and of consolidating the unsecured and inadequately secured debt, was under discussion in the customs conference which convened under the provisions of the Washington nine-power treaty, which provided for increasing the Chinese tariff.

COMMUNICATIONS. During 1924, 180,382 vessels of 141,432,827 tons entered and cleared Chinese ports. At the end of 1923 there were over 7513 miles of railway in China, excluding 1857 miles in Manchuria. Chinese railway operations in 1925 as in 1924, were extremely limited and the revenue derived was accordingly small; in the majority of instances the railways were unable even to earn their operating expenses. Transportation by rail was badly disorganized, much rolling stock has been destroyed or has suffered from depreciation, and a number of the railroads have deteriorated to the point where they are unsafe for passenger traffic and can give no service in moving freight. Few locomotives and little rolling stock of any description was sold in China during 1925. Although during early 1926 there was active inquiry for rolling stock of all descriptions, particularly for North China, the renewal of the Civil War deferred the placing of orders. Practically nothing was done toward extending the railway lines during 1925. Certain railways, such as the Lung-Hai and the Tsinan-Kaichow, which prior to 1925 were practically free from military control, have been taken over by the military parties controlling the districts through which these lines run. In South China the only event worthy of comment was the case of the Yunnan-Kopi Railway, which purchased additional locomotives and rolling stock during the year. The northern section of the Canton-Hankow line, although operating, was said to be in very bad repair as regards both track and rolling stock; the southern section of the lines was operating only spasmodically and was said to be short of rolling stock.

GOVERNMENT. At the beginning of 1926, China was virtually without a constitution. One was promulgated on Oct. 10, 1923, to replace the provisional constitution of Mar. 11, 1924. On Oct. 23, 1924, a coup d'état was carried out by Marshal Feng and on November 24 a provisional administration with autocratic powers was formed by Marshal Tuan Chi-jui. In October, 1925, elections were held to determine the form of government and the constitution. The presidency was vacant at the beginning of the year,









the chief executive being Tuan Chi-jui, installed Nov. 24, 1924. The cabinet, appointed at the same time, was constructed as follows: Interior, Kung Sing-Chau; Foreign Affairs, Tang Shao-Yi; Agriculture and Commerce, Yang Shi-Kan; Education, Wang Chu-Lin; Communications, Yeh Kung-Cho; War, Wu Kuan-Sing; Navy, Liu Chien-Chang; Justice, Chan Shih-Chow; Finance, Li Sze-Hao.

### HISTORY

THE PEKING GOVERNMENT. China's history during the year was a struggle for supremacy between the north and the south, the former under the leadership of the Manchurian warlord, Chang Tso-lin, and the latter under the leadership of the follower of Dr. Sun Yat Sen, Chiang Kai-shek. Generally speaking the fortunes of Chiang Kai-shek and his Cantonese followers were in the ascendancy at the close of the year, and it did seem, although prophecies concerning China's future are generally futile, as though he and his Kuomintang Party would be the unifying force that would lead China out of the meshes of a disastrous fratricidal war into the ranks of modern nationhood. All through the various struggles going on in China there was an attempt on the part of some of the leaders to keep at least a form of central government at Peking. Needless to say the term "central government" is used in a very loose sense because the Peking government never even claimed to exercise jurisdiction over the whole of China, much as it would like to.

As the year opened, Tuan Chi-jui, the provisional president, remained in office, although his position was considerably weakened. In the premiership Hsu Shih-ying was to be found aided by the following members of the cabinet: Foreign Affairs, C. T. Wang; Interior, Yu Yujen; Finance, Chen Chin-tao; War, Chia Te-yao; Navy, Tu Hsi-Kui; Justice, Ma Chun-wu; Education, Yi Pei-chi; Agriculture and Commerce, Kou Hsia; Communications, Kung Hsin-chan. The cabinet construction showed the increasing importance of the Kuomintang Party in Peking affairs. The Peking government precipitated an international crisis in the middle of March when it fortified the Taku forts at the mouth of the Pei River, and prevented commerce on the stream in either direction. Great Britain, the United States, France, Italy and Japan, the Boxer signatories, protested and compelled the Peking government completely to reverse its position. This untoward event considerably weakened the position of President Tuan. Early in March he made an offer to General Feng to enter the cabinet, but it was refused because his position was being made untenable by the Manchurian leader, General Chang, who entered the ancient capital of the country on April 15. Five days previously President Tuan had been deposed. Feng, the military power behind Tuan was forced to flee to Mongolia and for the time being was eliminated as a factor in the North China situation.

Wu Pei-fu, who had been defeated by Chang in 1924, but had been his ally in the move to oust Tuan from Peking, now became the ruler of the Peking district with the backing of Chang. He appointed General Wang Muan-ching sole ruler of the city. Feng was pursued into Mongolia by Chang but the latter was unable to annihilate Wu as he had promised and

Feng continued to be a menace from his Mongolian fastness.

The Peking cabinet established under Wu's régime after the middle of April consisted of: Prime Minister, W. W. Yen; Foreign Affairs, Alfred Sze; Finance, V. K. Wellington Koo; Commerce, Yang Wen-kai; Interior, Cheng Chien; War, Cheng Ching-huai; Education, Wang Ching-juei; Justice, Chang Kuo-Kan; Communications, Chang Chi-tang. The premier was the only member of this cabinet in Peking and he acted as a virtual dictator under the auspices of the army. The form of government brought about a dispute between Chang and Wu. The latter favored a government formed by constitutional processes, while the former wished a government based upon the army. The Chang and Wu forces appeared to have only one thing in common, namely opposition to the Bolsheviks, who openly favored the cause of the southern or Cantonese leader, Chiang Kai-shek.

Dr. Yen, the premier, resigned his position on June 22, announcing that he felt he had been made a catspaw by the ambitions of Chang and Wu. After a few months rule under the premiership of Admiral Tai Hsi-kwei, V. K. Wellington Koo was named acting prime minister on October 1. He had formerly held the posts of Minister to Great Britain and the United States. While considered one of the big men of China he seemed doomed to failure as a "strong man" as the year drew to a close, because he was not closely allied with any of the leading military chieftains.

THE CIVIL WAR. It is virtually impossible to give a chronological account of the civil war happenings in China, because they are not associated with any two single groups fighting against each other, but revolve rather around the personality of four or five of the military leaders who had more or less firmly established themselves in different parts of the country. An attempt will be made to present a short sketch of each of the prominent leaders during 1926 and after a résumé of the chief facts in his career, a brief discussion of the situation as it affected foreigners will be given.

The outstanding figure at the end of the year was Chiang Kai-shek, the warlord of the south, the leader of the Cantonese group of the Kuomintang Party, and the natural successor to the leadership of this group of Dr. Sun Yat Sen. Chiang undoubtedly was under the influence of the Moscow government and from this point of view was probably the most unfriendly toward the foreign element in China. If successful in gaining complete control over China it was expected that he would urge strenuously the revision of all foreign treaties and would adopt the slogan of "China for the Chinese." By the end of the year he had captured Wuchang and Hankow and had made himself complete master of the Yangtze Valley. As the year closed his only rival of any importance in the field was Chang up in Manchuria. His successes had practically eliminated General Wu for the time being.

Chiang's successes in the south were several times on the verge of causing foreign complications, and it must be said that the governments of Great Britain and Japan withheld direct intervention in the face of severe and many provocations. In September severe clashes occurred between members of General Wu's army

and sailors and marines from British war vessels in the upper Yangtse. The British press both in China and at home demanded vigorous action and direct intervention, but the government stated that such incidents were the result of the chaotic conditions in China and could not be considered a valid reason for intervening. From time to time American warships, as well as Japanese and French were fired upon, marines were landed to protect property, but the year closed without serious attempts being made to subdue China by outside interference. By the end of the year Chiang held control of the provinces of Kwangtung, Kwangsi, Hunan, Kweichow, Hupeh, Kiangsi, and part of Honan. General Feng, who had been defeated by Chang, was friendly to Chiang and held Mongolia and part of Shensi.

On November 21, Chiang made a statement of what the Kuomintang (The People's Party) represented. He stated that the revolution would not end until extraterritorial rights and concessions and unequal treaties had all been abolished. The powers who are willing to abrogate all former treaties and return their concessions and offer recognition to China on the basis of equal parties, will show a friendly spirit toward and be recognized by China. Recognition of the other powers which are unwilling to take this action was not considered essential to China, and such recognition was not wanted. Imperialism in whatever form it presented itself was to be attacked. This strong spirit of nationalism seemed to be able to gather the dissenting groups into a closer relationship.

The one bitter opponent of Chiang at the close of the year was Chang in Manchuria. At the close of the year, however, he was somewhat overshadowed by the star of Sun Chuanfang, who was in control of the five central provinces of China with his headquarters at Nanking. He was an able leader and seemed capable of assuming the duty of reuniting China, but he hesitated too long, and when he threw in his lot with Wu and Chang against Chiang, the Cantonese had gained too much momentum and overwhelmingly defeated him, and caused his star to set as the year drew to a close.

Wu-Pei-fu and Feng Yu-hsiang lost considerable ground during the year although Wu was of some prominence at the beginning of the year when he was in control of Peking with Feng. Feng was defeated by Chang and his new ally, but former enemy, Wu, and retired to Mongolia where he supported the position of Chiang in Canton. Wu was a bitter enemy of Chiang and came to blows with him on the upper Yangtse but was defeated and at the close of the year was virtually without an army or support of any kind. Feng went to Moscow and after remaining in consultation there for several months returned to Mongolia in the autumn and prepared to join hands with Chiang in an attack on Sun and Chang, which, if successful, would give them complete control of all China.

**ATTITUDE TOWARD FOREIGNERS.** Throughout the entire year there were many demonstrations against foreigners. The press in many foreign countries attempted to prove that this was the result of machinations on the part of Soviet Russia. Whatever the cause, the movement was very popular and appeared to have the hearty endorsement of the missionaries, who felt that their religious work was being hampered by

the commercial and industrial intrigues of the foreign countries without any regard for the feelings of the Chinese in the matter. Strikes, boycotts, and riots followed each other in rapid order and the Chinese were wily enough only to affront one nation at a time. Thus the big strike at Shanghai in 1925 was aimed against Great Britain. As a result of it Japan and France prospered and did not seem to mind the situation at all. Later on the Japanese were hit much to the advancement of all the other countries interested. Then it was the turn of France and so on. In this way the Chinese prevented the foreign nations from joining in any unified protest or taking joint action against the various means taken to disturb the "foreign devils."

**TARIFF CONFERENCE.** The Washington Conference proposed an international conference to discuss the problem of China's internal and external tariff duties. The conference began its sittings and investigations in 1925 and on July 23, 1926 was compelled to adjourn sine die without accomplishing anything of value chiefly because of the chaotic condition and the failure of any group of Chinese representatives to actually represent China. When the conference first met in October, 1925, the foreign nations announced that they were ready to give up any claim to regulating China's tariff and would grant tariff autonomy. Needless to say such an announcement was hailed in the Chinese press, but was bitterly attacked abroad, particularly in the press of Japan and Great Britain. There was a feeling in certain quarters of the American press, that the representatives of Japan and Great Britain were partially instrumental in wrecking the tariff conference largely because of the fact that it would serve their interests much better to keep the status quo than to give China tariff autonomy. Whatever the cause, the conferences ended in July and never functioned thereafter.

**THE COMMISSION OF EXTRATERRITORIALITY.** The Washington Conference also suggested an investigation of the conditions of extraterritoriality in China, that is, those treaty provisions, etc., which practically nullified Chinese sovereignty and substituted the laws of the country making the treaty. Some countries, such as the United States, Great Britain, and Japan, had suggested early in the twentieth century that they would be glad to abolish extraterritoriality provisions as soon as China showed herself able to substitute satisfactory guarantees for them. Civil wars and revolutions prevented China from so doing but she suggested at the Washington Conference that the matter be taken up by an international commission and made a subject of thorough study. As mentioned above these extraterritoriality provisions were anathema to the Cantonese war lord, Chiang and his followers.

On November 28, the report of the commission was published. The commission had held 21 full sessions between January 12 and Sept. 16, 1926, and in the meantime had made as thorough an examination of the practice of extraterritoriality jurisdiction in China as possible, and had also studied the laws, judicial system, and methods of judicial procedure in China. The commission comprised representatives of the following countries: United States, Belgium, Great Britain, China, France, Denmark, Italy, Japan, Holland, Norway, Portugal, Sweden, and Spain.



Briefly summarized the commission found serious fault with the methods of conducting the extraterritoriality courts, because of the various matter handled, the lack of legal experience or training in most cases, inability to appeal decisions, and the variety of laws applied to similar cases when affecting different nationals. The suggestion was made that Chinese law codes be substituted as soon as possible if these extraterritorial courts are to continue to function. The result of the study of the Chinese legal system brought out the facts that most of the current codes were not passed by the proper constitutional authorities and therefore did not have a binding effect and that they were liable to be overthrown at almost any moment by a conquering war lord who was executive, legislative, and judicial rolled into one. Furthermore there were far too few courts and prisons to handle all the cases presented. Finally, the commission advocated the gradual abolition of the extraterritorial courts, province by province, as conditions warranted, and as constitutional and legal codes were rightfully established.

**ABROGATION OF THE TREATY WITH BELGIUM.** An event of the utmost importance occurred on November 16, when the Chinese government at Peking abrogated the Sino-Belgian Treaty of 1865. China took this step after Belgium had refused to negotiate a new treaty on the basis of equality and reciprocity. The step was important because in a way it foreshadowed a possible precedent in the handling of all foreign treaties when the expiration term arrived.

**BRITISH MEMORANDUM.** On Christmas Day the British Foreign Office published a note on Chinese policy, which had been presented to the Peking government on December 18. The note advocated the virtual recognition of the Cantonese government and the abolition of foreign control. Great Britain expressed her willingness to negotiate new treaties with China and to permit the abolition of extraterritoriality control, as well as the immediate levy of the Washington Conference surtaxes for the benefit of China. At the same time the British government released for publication a note sent to the United States government in May advocating the relaxation of foreign control in China. The publication of the note was adversely received in Japan and in France, which appeared to back the claims of Japan even to the extent of antagonizing Great Britain. The Cantonese leaders in the few days left of the year seemed to be suspicious of the British proposals and looked upon them as being a disguised form of British imperialism.

**CHITA.** See FAR EASTERN REPUBLIC.

**CHORAL SOCIETIES.** See MUSIC.

**CHOSEN.** See KOREA.

**CHRISTIAN CHURCH.** A church originating in three religious movements, that of the Rev. James O'Kelly of Virginia, who, in 1792, opposed Methodist Bishops, and those of the New England Baptist, Abner Jones, who organized a separate church in 1801, and of the Kentucky group, formed in 1804. These groups eventually united, all holding that minor points of belief should be subordinated to Christian brotherhood. A General Convention meets every four years, and convened at Urbana, Ill., in October, 1926. Biennial conventions are held in districts, each consisting of a number of States. The church carries on home and foreign mis-

sions, educational work, publication, Evangelism, Christian unity work, social service, and other general activities. Its home mission field includes new Americans in the East, the lumber camps in Washington, Indians, mountaineers, and negroes; its foreign field, Japan, Porto Rico, and South America. It maintains eight educational institutions. Its publishing house at Dayton, Ohio, issues, among other periodicals, the oldest religious newspaper in the United States, the *Herald of Gospel Liberty*. In 1926 the Christian Church had 1147 churches, 1123 ministers, and 108,261 members. It had a total revenue of \$1,024,379. Its Sunday schools, numbering 946, had 98,723 pupils.

**CHRISTIAN ENDEAVOR, UNITED SOCIETY OF.** An international, inter-racial, and inter-denominational movement for young people which was founded in 1881 for the purpose of training converts for church membership and work. It meets biennially, and in 1925 convened for its 30th Convention at Portland, Ore., July 4-9. A World's Christian Endeavor Convention was held in London, England, July 16-21, 1926, bringing together delegates from more than 40 nations, including Australia, India, and the new countries in Europe. An International Convention was to take place in Cleveland, Ohio, July 2-7, 1927. Four departments carry on the activities of the society: Junior, Intermediate, and Young People's Societies, and Alumni Councils. Statistics for 1926 showed 81,903 societies, of which 47,420 were in the United States, 4090 in Canada, and 34,483 in other countries. During the fiscal year ending July 1, 1926, 2682 societies enrolled. For 1926 the enrollment in the various groups of the society was: Comrades of the Quiet Hour, whose members covenant to spend a definite portion of each day in prayer, 245,415; the Tenth Legion, whose members make the tenth their minimum gift for religious work, 72,357; and Life-Work Recruits, young people who have agreed to give themselves to full-time service in the Christian ministry or in missionary work, 8253. The Alumni Department of the society, established in 1919, is composed of former Endeavorers and friends of Endeavor. In each two-year period between the biennial conventions, a special campaign is undertaken. The campaign in 1925-27 was the Loyalty Campaign, with the slogan, "Personal Acceptance of, and Allegiance to Jesus Christ." During the year progress was made in every land and societies were reported as having been organized in such places as the wilds of Brazil and the Faroe Islands. Of the denominations, the Presbyterians led in the number of societies in America, the Methodists in Great Britain, and the Lutherans in Germany and Northern Europe. *The Christian Endeavor World* (weekly) is the official publication of the Society. Officers for 1925-27 were: President Emeritus, Rev. Francis E. Clark; President, Rev. Daniel A. Poling; Vice-Presidents, Howard B. Grose and William Hiram Foulkes; Clerk, Clarence C. Hamilton; Treasurer, A. J. Shartle; General Secretary, Edward P. Gates. Headquarters of the Society are at Mount Vernon and Joy Streets, Boston, Mass.

**CHRISTIAN SCIENCE.** A system of metaphysical or spiritual healing discovered by Mrs. Mary Baker Eddy in 1866. The first church was established by Mrs. Eddy in Boston in 1879 and given a charter by the Commonwealth of Massa-

chusetts. In 1892 it was reorganized as a voluntary religious association known as The First Church of Christ, Scientist, in Boston, called more frequently by its adherents "The Mother Church." Mrs. Eddy wrote the textbook of the movement, *Science and Health with Key to the Scriptures*, published in 1875. The Sunday services of the church are conducted by a first and second reader, the first reading from the textbook, and the second from the authorized version of the Bible. In 1926 there were over 8052 practitioners of Christian Science in the United States and other countries, who devoted their entire time to healing the sick through prayer. A Board of Directors administers the affairs of The Mother Church. Its annual meeting was held in Boston, June 7. Reports indicated expenditures totaling \$1,192,091.47 from the General Fund of the Church during the year, and \$265,961.42 from the Permanent Special Funds. During the fiscal year ending May 31, 13 churches and 76 Christian Science societies, including three university societies, were recognized as branches of The Mother Church; 21 new organizations were located in Europe, 5 in Africa, 1 in Australia, 3 in New Zealand, and 1 in the Dutch East Indies. The total number of recognized branches, including 28 college and university societies, was 2253. Three departments conduct the principal activities of the movement: The Board of Education, Board of Lectureship, and Committee on Publication. The educational board instructs and authorizes students to teach Christian Science. The Board of Lectureship consists of 24 members who deliver free lectures on Christian Science throughout the world. During the year 3432 lectures were delivered, of which 3123 were in the United States and Canada, and 309 in foreign fields. The Committee on Publication aims to correct impositions on the public in regard to Christian Science. It also endeavors to guard the rights of Christian Scientists against restriction by public authority. The Christian Science Publishing Society, which publishes and issues the authorized literature of The Mother Church, operates under a deed of trust granted by Mrs. Eddy; its affairs are now administered by a Board of Trustees according to the Manual of the church. The Publishing Society issues the daily paper of the movement, *The Christian Science Monitor*; other periodicals of the Scientists include: *The Christian Science Journal*, *Christian Science Sentinel*, *Der Herold der Christian Science*, and *Le Héraut de Christian Science*. The Benevolent Association of the church conducts a sanatorium, where 1742 guests were provided for during the year. A training course is also conducted for nurses. The headquarters of the church are at 206 Massachusetts Avenue, Boston. David Newton McKee was president of The Mother Church for the year ending May 31, 1926.

**CHRISTIANS.** See DISCIPLES OF CHRIST.

**CHRISTMAS ISLAND.** An island belonging to Great Britain, in the Indian Ocean, lying 190 miles southwest of Java, annexed to the Straits Settlements in 1889. Area, 62 square miles; population, estimated in 1924, 995. Christmas Island is important because of its very large deposits of phosphate of lime which constitute its only export. Exports in 1924 amounted to £232,791 and imports to £50,155. The chief imports are tools, machinery, railway materials,

and lorries. For administrative purposes the island is connected with the settlement of Singapore.

Christmas Island is also the name of the largest atoll in the Pacific Ocean. It belongs to the British colony of Gilbert and Ellice Islands.

**CHURCH OF ENGLAND.** See ENGLAND, CHURCH OF.

**CHURCH OF GOD.** See ADVENTISTS.

**CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS, MORMON CHURCH.** See LATTER DAY SAINTS, CHURCH OF.

**CHURCHES OF CHRIST.** See DISCIPLES OF CHRIST.

**CHURCHES OF CHRIST IN AMERICA, FEDERAL COUNCIL OF THE.** See FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA.

**CIEPLAK, tsé'plak, JOHN.** Roman Catholic Titular Archbishop of Acrida, and Metropolitan of Vilna, Poland, died at Passaic, N. J., while on a visit to the United States, February 17. He was born at Dombrova in Poland in 1858, and came into general public attention during the early years of the Soviet government in Russia, when he acted in charge of the affairs of the Roman Catholic Church in the absence of its primate. In March, 1922, he and a number of priests were accused of acting in opposition to the Soviet policies in regard to religion, and of concealing church treasures from the Soviet authorities. After a Soviet trial, Archbishop Cieplak and Mgr. Butkevitch were condemned to death by the Supreme Revolutionary Tribunal in Moscow. This action brought protests from many western churches and governments, and though Mgr. Butkevitch was executed, the sentence of death for the Archbishop was commuted to ten years solitary confinement. In the following year he was released and expelled from Russia, taking up his activities in Poland.

**CIGARS AND CIGARETTES.** See TOBACCO.

**CINCINNATI, UNIVERSITY OF.** A coeducational, municipal institution of higher education at Cincinnati, Ohio; founded in 1870. The registration in the autumn of 1926 was 7492, distributed as follows: graduate school, 192; liberal arts, 1207; evening courses in liberal arts, 815; education, 766; engineering and commerce, 1293; evening commerce courses, 2383; applied arts, 226; household administration, 64; law, 115; social work, 61; medicine, 270; nursing and health, 100. For the summer school the enrollment was 1744. There were 502 members on the faculty. The endowment funds of the University for the fiscal year 1925 were \$5,971,234.47, and income for the same period \$1,449,667.42. The library contained 126,761 bound volumes and 40,000 pamphlets. President, Frederick Charles Hicks, Ph.D.

**CITIES, FINANCIAL STATISTICS OF.** See MUNICIPAL GOVERNMENT.

**CITRUS APHID.** See ENTOMOLOGY, ECONOMIC.

**CITRUS FRUITS.** See HORTICULTURE.

**CITY GOVERNMENT.** See MUNICIPAL GOVERNMENT.

**CITY MANAGER PLAN.** See MUNICIPAL GOVERNMENT.

**CITY PLANNING.** The most significant event in the city planning field during the year was the decision of the United States Supreme Court in the *Euclid, Ohio*, case, noted at some length below, upholding in general all the fundamental principles of zoning as a constitutional

exercise of the police power and sustaining in particular the zoning principle as applied by the Euclid ordinance to the exclusion of buildings devoted to business from residential districts. The number of local planning agencies in the United States now exceeds 300, according to "A Planning Review" by Flavel Shurtleff, secretary, National Conference on City Planning (see *Proceedings*, 1926). Of 49 cities having a population of 150,000 or more, 44 have planning boards. Mr. Shurtleff's paper contains a list of 141 cities for which more or less complete city plans have been made. There is not available an up-to-date summary of the extent to which plans made by these or other cities have been carried out, but it is well known that many of them have not gone far beyond the paper stage, although much has been done in some cities, both small and large. Acting according to recent congressional authorization, President Coolidge, on May 19, appointed the National Capital Park and Planning Commission to develop a comprehensive plan for the national capital and its environs and to develop parks and parkways. Of 11 members of the commission, seven are officials of the Federal and District of Columbia governments. The other four members, appointed to serve for 6, 5, 4 and 3-year terms respectively, are Frederick L. Olmsted, landscape architect, Brookline, Mass.; Frederic A. Delano, chairman, Committee on Regional Plan of New York and Environs; J. C. Nichols, city planning expert, Kansas City; and Milton R. Medary, Jr., president, American Institute of Architects. It was expected that the committee would continue the notable work done some years ago by an earlier commission in the way of planning, extending it, however, to the district surrounding Washington and taking up parks and parkways.

On June 14, Mayor Walker of New York City appointed a Committee on City Planning and Survey, consisting of 471 men and women in various walks of life, including leading members of various branches of the city government and of technical, civic and labor organizations. The chairman of this committee was Morgan J. O'Brien, a former justice of the New York State Supreme Court, and its secretary was Joseph A. Warren, commissioner of accounts of the City of New York. The following seven sub-committees were created: (1) Housing, Zoning and Distribution of Population; (2) Street and Terminal Facilities; (3) Traffic Regulation and Street Uses; (4) Sanitation and Harbor Pollution; (5) Highways and Bridges; (6) Parks and Recreational Facilities; (7) New Sources of Revenue.

As an example of the city planning work constantly in progress throughout the country and as illustrating its complex character for large cities and the time which it requires, it may be noted that during the year the City Planning and Zoning Commission of New Orleans put under way studies for a comprehensive plan for development of that city, entrusting the work to a city planning consultant with the understanding that the studies would be completed within four years. Reports were to be presented on: (1) A major street plan; (2) transit; (3) rail and water transportation; (4) parks, boulevards, playgrounds; (5) zoning; (6) regional plans for highways, transportation, recreational areas, and general uses of property.

**STREET WIDENING AND EXTENSIONS.** The continuously enlarging traffic problem in many cities which had grown haphazard rather than had been laid out on any adequate systematic plan, was resulting in a large amount of street widening and extension all over the country. Some of this was being done in accordance with major street plans and some was merely the result of local intensive pressure. In Boston and vicinity, according to a summary prepared by the Division of Metropolitan Planning, the total estimated cost of street widening and extension work undertaken in the past five years by either the City of Boston or the Metropolitan District Commission amounted to some \$20,000,000. Some of this work was well under way and some had not yet extended beyond preliminary stages. Eight projects in hand by the City of Boston were to cost some \$20,000,000 and six projects undertaken by the Metropolitan District, about \$8,000,000. Of the latter, the northern traffic artery was to cost \$2,400,000; the southern artery, \$1,800,000; and the Old Colony Parkway, \$2,500,000. The legislature of 1926 took no action on the proposed intermediate thoroughfare loop highway for the relief of downtown Boston, recommended two or three years ago at an estimated cost of \$30,000,000.

At Washington, D. C., a piece of current work was the widening of Connecticut Ave., 30 feet by taking 15 feet off each 40-foot sidewalk. At Baltimore, Md., since the annexation of about 60 square miles of territory in 1918, the local City Plan Commission worked out a major street plan and put 57½ miles of street work under way, providing mostly for streets between 80 and 150 feet wide. Of this amount, 12.8 miles had already been completed early in 1926. Besides the 57½ miles of major streets, condemnation proceedings had been started on 84 miles of minor streets which would fit into a general plan. Detroit was making progress with its major street plan, including also some super-highway work for Detroit and vicinity with street widths of over 200 feet.

At Chicago, the Wacker Drive was opened for traffic on October 21. This is over a mile in length and is a two-story structure designed to separate traffic (for elements of design and construction see *Engineering News-Record*, October 15 and 22, 1925, pp. 632 and 662). The cost of this work, excluding land damages, was about \$10,000,000. The Wacker Drive, together with a somewhat similar double-deck concrete structure on South Water St. and improvements on Canal St., Roosevelt Road and Michigan Ave., complete the quadrangle around the congested business district of Chicago, so that traffic can skirt the district instead of passing through it. In Chicago, also, over half of the work of widening Western Ave., through its distance of 23 miles from north to south boundary lines of the city, has been completed. This avenue leads into the Dixie Highway.

A summary of progress on the major street plan of St. Louis up to April, 1926, showed that of some 250 miles, 135 miles were of satisfactory width at the outset. Of the remaining 115 miles (recommended for widening or extension) about 10 miles have been constructed, nearly 50 miles are under ordinance, and 25 have been recommended by the City Plan Commission to the Board of Public Service for action, while on 35 miles no action has yet been taken.

**REGIONAL PLANNING.** A dozen regional planning associations, mostly voluntary in character rather than in any sense branches of government, were in existence in 1926 in the United States. Arranged geographically by city locations, these are as follows: Niagara Frontier Planning Association (offices at Tonawanda, near Buffalo); Committee on Regional Plan of New York and Environs, New York City; Regional Planning Federation of the Philadelphia Tri-State District, Philadelphia; Lucas County Planning Commission, Toledo, Ohio; Detroit Rapid Transit Commission, Detroit, Mich.; Chicago Regional Planning Association, Chicago, Ill.; Madison-St. Clair Counties Regional Planning Association, East St. Louis, Ill.; Twin City Metropolitan District, Minneapolis-St. Paul; Kansas City, Mo. (committee being formed for five counties—Clay, Jackson, Johnson, Platte, and Wyandotte); Los Angeles County Regional Planning Commission, Los Angeles, Cal.; Regional Planning Association of San Francisco Bay Counties, San Francisco, Cal.

**ZONING.** The latest available summary of zoning progress, compiled by the Division of Building and Housing of the U. S. Department of Commerce (dated April, 1926), listed 436 municipalities with a population exceeding 27,500,000 with zoning ordinances in effect. There were only 6 such cities in 1916, 73 at the end of 1921, 265 in 1923, and 425 at the end of 1925. At the date of the compilation, New Jersey headed the list with 73 cities and New York followed with 72, California with 47, Massachusetts with 41, and Illinois with 38. The latest revised list may be obtained by applying to the Department of Commerce, Washington, D. C., as also a summary of zoning decisions, entitled *Zoning and the Court*, by Edward M. Bassett; a *Zoning Primer* by the Advisory Committee on Zoning appointed by Secretary Hoover, and *A Standard Zoning Enabling Act*, by the same committee. The same department also issues *A City Planning Primer*.

**THE EUCLID ZONING DECISION.** The United States Supreme Court decision upholding zoning, mentioned above, was handed down on November 22, three judges dissenting. (*Village of Euclid, Ohio, v. Ambler Realty Co.* on appeal from Federal District Court for Northern Ohio.) The original plaintiff in this case, owner of 58 acres of undeveloped land, sought to have the entire zoning ordinance of the village, as adopted in 1922, set aside as a violation of Sec. 1 of the 14th Amendment of the Federal Constitution in that the ordinance would deprive the owners of the land of liberty and property without due process of law. The owner of the land also maintained, and the trial Supreme Court agreed, that enforcement of the ordinance would reduce materially the selling value of the land in question. In the course of its decision, the Supreme Court took it for granted that zoning ordinance restrictions on the height of buildings and on the exclusion of nuisance-producing industries from certain areas have already been established as constitutional. It, therefore, concerned itself chiefly with the exclusion of buildings for business purposes from areas restricted by ordinance to residence purposes. Speaking of nuisances in general, the Supreme Court said that "a nuisance may be merely a right thing in the wrong place—like a pig in the parlor, instead of the barnyard." Elsewhere in its decision the

court held in effect that apartment houses in districts restricted to single-family or two-family dwellings would be a nuisance because out of place. The Supreme Court decision referred to the three leading state Supreme Court decisions—New Jersey, Maryland and Texas—adverse to zoning and more than offset this by mentioning State Supreme Court decisions in nine states upholding zoning, these states being Massachusetts, Rhode Island, New York, Louisiana, Illinois, Wisconsin, Minnesota, Kansas, and California. Summarizing state decisions upholding zoning, and giving its approval thereto, the Supreme Court said: "The decisions enumerated in the first group cited above agree that the exclusion of buildings devoted to business, trade, etc., from residential districts bears a rational relation to the health and safety of the community. Some of the grounds for this conclusion are: Promotion of the health and security from injury of children and others by separating dwelling houses from territory devoted to trade and industry; suppression and prevention of disorder; facilitating the extinguishment of fires and the enforcement of street traffic regulations and other general welfare ordinances; aiding the health and safety of the community by excluding from residential areas the confusion and danger of fire, contagion and disorder which in greater or less degree attach to the location of stores, shops and factories. Another ground is that the construction and repair of streets may be rendered easier and less expensive by confining the greater part of the heavy traffic to the streets where business is carried on." Finally, the court made it clear that its decision in this case was on broad, general grounds, and did not at all bar consideration of special conditions that might be brought up in other cases.

**RESTORATION OF ROME.** The restoration of the grandeur of Rome to make it again as "vast, well ordered and powerful as in the days of the Emperor Augustus" was officially begun on April 21 under an order issued by the Italian Premier, Mussolini. The work is under the charge of Senator Cremonesi, "the first Governor of Rome" under another of Mussolini's orders. The National Government has advanced 90,000,000 lire for the work. Among other improvements proposed are two main thoroughfares, one between the Trajan and Roman Forums and the other leading to the Coliseum.

New books in this field are James, *Land Planning in the United States for the City, State and Nation* (New York); and Kehr, *A Nation Plan: A Basis for Coordinated Physical Development of the United States of America, with a Suggestion for a World Plan*.

**CIVIC FEDERATION, NATIONAL.** See NATIONAL CIVIC FEDERATION.

**CIVIL ENGINEERS, AMERICAN SOCIETY OF.** An association of professional engineers founded in 1852 to advance engineering and architectural knowledge and practice, maintain high professional standards, and encourage intercourse between men of practical science. It is made up of: Members, including civil, military, naval, mining, mechanical, electrical, and other engineers in active practice ten years and qualified to design as well as direct engineering work; Associate Members, those who have been practicing five years; Affiliates, persons qualified to cooperate with engineers, but not themselves engineers; Juniors, beginners in the profession;

Fellows, contributors to the permanent funds who are not eligible to membership, and Honorary Members, persons of acknowledged eminence in engineering. Four general meetings are held each year: The annual meeting held the third week in January, in New York, at which the results of a previous ballot for officers are announced, reports of committees are received, and other business transacted; the annual convention held during the summer, with general business, technical sessions, and interesting excursions; and the spring and fall meetings. In addition, there are monthly meetings in New York City, as well as meetings held by the local sections.

In 1926 there were 45 local sections, and 86 affiliated student chapters in colleges throughout the country. The membership, as of Nov. 16, 1926, was 11,820, divided as follows: Honorary members, 14; members, 5186; associate members, 5425; juniors, 1037; affiliates, 150; fellows, 8. The annual meeting was held on January 19-21; and the spring meeting, Kansas City, Mo., April 14-16, was devoted to transportation. The summer meeting in Seattle, Wash., July 14-16, considered logging and lumbering industries; while the annual convention in Philadelphia, October 4-9, discussed 150 years of civil engineering. At these meetings nine technical divisions presented papers and carried on independent committee work. Seventeen special committees, enlisting 100 members, followed out investigations during the year. Eighty-five members of the Society served on joint committees and boards with representatives of other societies, for research and standardization. The Society publishes monthly *Proceedings*, containing the papers presented at meetings, with discussions and items of general interest. At the end of each year the papers and discussions are republished in the annual volume of *Transactions*. It also issues an annual Year Book. The officers for 1926 were: President, George S. Davison; Vice-Presidents, Richard L. Humphrey, Milo S. Ketchum, Allen Hazen, Walter L. Huber; Secretary, George T. Seabury; Treasurer, Otis E. Hovey. The headquarters of the Society are in the Engineering Societies Building at 33 West 39th Street, New York, of which, with three other national engineering societies, it is joint owner as well as of the engineering library here installed.

**CIVIL SERVICE AND PERSONNEL PROBLEMS.** Unquestionably the outstanding event of the year in this field was the decision of the U. S. Supreme Court with regard to the right of the President of the United States to remove from office those who had been appointed by him by and with the advice and consent of the Senate. In the case of *Myers vs. the United States*, by a vote of 6 to 3, in an opinion rendered by Chief Justice Taft, the Court sustained the right of the President so to remove. According to Chief Justice Taft, the power to prevent the removal of an officer who has actually served is quite different from the authority granted by the Constitution to the Senate to consent to or reject an appointment: "When a nomination is made, it may be presumed that the Senate is, or may become, as well advised as to the fitness of the nominee as the President, but in the nature of things the defects in ability or intelligence or loyalty in the administration of the laws of one who has served as an officer under the President are facts

as to which the President or his trusted subordinates must be better informed than the Senate, and the power to remove him may, therefore, be regarded as confined, for very sound and practical reasons, to the governmental authority which has administrative control. The power of removal is incident to the power of appointment, and when the grant of the executive power is enforced by the express mandate to take care that the laws be faithfully executed, it emphasizes the necessity for including within the executive power as conferred the exclusive power of removal." The fact that the Constitution places no express limit on the power of removal by the Executive is taken by the Supreme Court majority as "a convincing indication that none was intended." Chief Justice Taft, therefore, says "we must hold that the provision of the law of 1876, by which the unrestricted power of removal of the first-class postmasters is denied to the President, is in violation of the Constitution and invalid." Justices Brandeis, Holmes and McReynolds dissented.

Some idea of the extent of the development of the merit system in the Federal Civil Service may be gathered from President Coolidge's message of December, 1925 in which he said:

"In 1883 Congress passed the civil service act, which from a modest beginning of 14,000 employees has grown until there are now 425,000 in the classified service. This has removed the clerical force of the Nation from the wasteful effects of the spoils system and made it more stable and efficient. The time has come to consider classifying all postmasters, collectors of customs, collectors of internal revenue, and prohibition agents by an act covering in those at present in office, except when otherwise provided by Executive order. The necessary statistics are now being gathered to form the basis of a valuation of the civil service retirement fund based on current conditions of the service. It is confidently expected that this valuation will be completed in time to be made available to the Congress during the present session. It will afford definite knowledge of existing and future liabilities under the present law and determination of liabilities under any proposed change in the present law. We should have this information before creating further obligations for retirement annuities which will become liabilities to be met in the future from the money of the taxpayer."

In the year, June 30, 1925, to June 30, 1926, the number of Federal employees was reduced from 564,718 to 560,705.

Progress in the extension and development of the merit system of appointment is measured not only by the number of positions withdrawn from the spoils system but also by the increased efficiency and economy it produces in the administration of the service. There has been an improvement in methods of ascertaining fitness by psychological tests, and in the moral support of the government by intelligent public opinion. There is no question that the Federal Civil Service Commission has grown in public favor and general acceptance.

Due to the increased and increasing technical activities of the Government and the new legislative requirements, the Commission is called upon to hold a large number of technical, professional, and scientific examinations. Among the new interesting activities supplied by these

examinations are the commercial air service; the public building programme involving the expenditure of \$165,000,000 and requiring draftsmen, engineers, and architects; pharmacists in the prohibition service; probation officers in the United States courts; experts in coöperative marketing; auditors, actuaries, attorneys and examiners in the Income Tax work and in the Interstate Commerce Commission.

There are three national organizations giving detailed attention to the application and extension of the merit system: the National Civil Service Reform League (see CIVIL SERVICE REFORM LEAGUE, NATIONAL) the Assembly of Civil Service Commissions and the Public Personnel Bureau. The League is the oldest. It is essentially propagandist and critical and is entitled to the fullest measure of credit for the persistence, public spirit and effectiveness with which it has applied itself to what at best is a thankless task. During 1926 it devoted much of its energies to combating the corrupt practices incident to the purchase and sale of Federal offices, particularly in the Southern states. They have been exposed quite clearly by the League, which was able to capitalize the general feeling of disgust. In the House and the Senate, bills are pending which, if they became law, are intended to stamp out the possibility of the purchase and sale of Federal offices through political organizations. One was introduced by Mr. Wurzbach (Republican) of Texas, the other by Mr. Stevenson (Democrat) of South Carolina. Both were passed and went to a conference committee, but the committee did not report them before adjournment, and consequently they were not finally passed. It was expected that the would be passed and signed when Congress reconvened.

The League aimed to get the conference committee to provide specifically that it shall be the function and duty of the Federal Commission to enforce the provisions of the bills. The League was also gradually building up popular support for legislation to bring into the classified civil service presidential postmasters and the tax collection forces of the Treasury Department. The hold on these offices by the political organizations is so strong, however, that it may take a number of years to secure action. The headquarters of the League are at 8 West 40th Street, New York City.

The Bureau of Public Personnel Administration devotes itself to the development of the technical features of the problems. Its principal activity during 1926 was the development of tests intended to select qualified persons to fill ten classes of positions common in the public service: Playground supervisor, road inspector, plumber, shift engineman, junior clerk, private branch exchange operator, electrician, patrolman, senior account clerk, and probation officer. The tests for junior clerk and patrolmen have been almost completely standardized; both have been widely used, those for junior clerk in industry as well as in the public service. The staff of the Bureau handled the detailed work of preparing a comprehensive statement regarding the merit system in the public service and drafted a law embodying the best present day practices for the Conference Committee on the Merit System. The headquarters of the Bureau are in the Mills Building, Washington, D. C.

During the year arrangements were made with the Assembly of Civil Service Commissions and

with individual civil service commissions in the United States and Canada (the bodies for which the Bureau serves as a clearing house and research agency) by which they provide a part of the financial support hitherto contributed almost entirely by interested public citizens. The Assembly brings together the actual administrators of the various Federal, state and municipal Civil Service laws. Through its coöperation with the League and Bureau it is gradually developing its efficiency and effectiveness.

Perhaps the most important single development was the completion of the *Report of the Conference Committee on the Merit System*, which consisted of representatives of the Assembly of Civil Service Commissions, the National Civil Service Reform League, the Governmental Research Conference, and the Bureau of Public Personnel Administration, the National Municipal League. This was believed to be the most authoritative statement so far prepared with regard to such matters as the size of the public service, the problems involved in public personnel administration, the functions and organizations of a public personnel agency, and the results that ought to be achieved. The report includes a draft of a proposed law or charter embodying advanced ideas as to proper legal provisions.

This Committee was formed "for the purpose of preparing a definite, clear-cut statement of the functions a public personnel agency should exercise, and of the results which should be secured when it is properly supported and exercises these functions." The Report recognizes that there is room for difference of opinion on how the employment functions should be distributed among the three important official bodies concerned with employment affairs, i.e., the civil service commission, the executive heads of departments, and the legislative body. It, however, outlines a number of functions in which the civil service commission should at least participate. The more important are the classification of positions; establishment of standard rates of pay; selection of employees for entrance to the service and for promotion; certification of eligible persons for appointments; regulation of transfers; rating of the efficiency of employees; and regulation of the removal of employees."

To what extent the commission should exercise each of these functions is discussed in detail. The moot problems how the personnel agency should be constituted is considered at length, but no definite answer is given. Six forms of organization are described and the advantages and disadvantages of each are listed. These forms are (1) an appointed bi-partisan commission (2) an appointed part-time commission with a full-time expert who is by statute the executive officer of the commission; (3) an appointed bi-partisan commission with one full-time member and two associate part-time members (4) an appointed commission consisting of one person; (5) a commission consisting of one person chosen by competitive test; and a commission with an active, full-time executive member chosen by competitive test and two part-time associate members, one appointed from among the operating officials and the other chosen by the employees.

**CIVIL SERVICE REFORM LEAGUE, NATIONAL.** An organization founded in 1881 for the purpose of putting to an end the so-called spoils

system of making appointments to public office. It has sought to accomplish this end by promoting administrative efficiency through the application of the merit system to the appointment, promotion and tenure of government employees. The League is made up of local associations in various parts of the country and of individual members not in local groups.

During 1926 the League sponsored legislation to empower the President to place in the classified civil service all Federal positions exempt by statute; to provide for the appointment of all postmasters and rural carriers through the merit system and without political recommendation; to place prohibition agents in the classified civil service; and to abolish the Federal Personnel Classification Board, transferring its functions to the United States Civil Service Commission, in order that the administration of personnel matters might be handled by one agency. The League protested against the sale of postmasterhips and other positions in the postal service in Southern States and urged the President to issue an executive order making mandatory the appointment of the first person on eligible lists for these positions. It made an investigation of the appointment of deputy collectors of internal revenue and found that the number of deputy collectorships was increasing rapidly because they were being used as political patronage. Legislation empowering the President to place these positions in the classified service was supported by the League. The League was represented by two members on the Conference Committee on the Merit System which included representatives from the National Municipal League, Government Research Conference, National Assembly of Civil Service Commissioners, and the Bureau of Public Personnel Administration. This committee issued a report on the functions which a public personnel agency should exercise and the results which should be secured when it is properly supported and exercises that function. Through its Field Division the League endeavors to secure the adoption of civil service laws in various states and cities. Reports of its investigations are issued from time to time. *Good Government* is the official organ of the League. The officers in 1926 were: President, Thomas W. Swan; treasurer, A. S. Frissell; secretary, Harry W. Marsh. The headquarters of the League are at 8 West 40th Street, New York City.

**CIVITAN CLUBS.** Organizations composed of selected professional and business men, who have dedicated themselves to unselfish service to their city, State or Province, and nation. The first Civitan Club was organized in the spring of 1917 at Birmingham, Ala. The word "Civitan," coined by one of its founders, means "the citizen." It was not until 1920 that Civitan spread beyond Birmingham, but in the summer of 1921, when the first convention was held, there were thirty clubs, all of them except Washington and Baltimore in the Southeastern and Southwestern States. When the sixth annual convention met in Philadelphia, Pa., in December, 1926, the National Association numbered 192 clubs, with nearly 8000 members, new clubs having been organized during the year in Alabama, Florida, Maine, Connecticut, Massachusetts, Maryland, North Carolina, Ohio, West Virginia, Tennessee, and Texas. The outstanding accomplishment of this convention was the adoption of a programme

to stamp out tuberculosis and curb crime. Among the activities of the individual clubs were: The care of crippled children, the erection of municipal golf courses, public parks and play grounds, street paving, road building, sanitation, essays on "Good Citizenship" by public school students, better schools, securing new industries, erection of tuberculosis hospitals, care of under-privileged children, and Boy Scout camps. The national officers for 1926 were: President, Dr. Herbert Acuff, Knoxville, Tenn.; first vice-president, Sanford Hyams, San Francisco; second vice-president, Seymour Stewart, St. Louis; third vice-president, James N. MacLean, New York; secretary, Neal B. Spahr, Knoxville, Tenn.; treasurer, Claude L. Hagan, Birmingham, Ala.; field secretaries, Charles F. Lender, Columbus, Ohio, Ben M. Russell, New Haven, Conn., Edwin L. Turrell, San Francisco, Calif. The official publication is *The Civitan*, a monthly, published at Columbus, Ohio, Frank H. Ward, Editor. Headquarters are in the First National Bank Building, Birmingham, Ala., and the secretary's office is 1115-16 General Building, Knoxville, Tenn.

**CLARK, CHARLES HOPKINS.** American newspaper editor, died at Hartford, Conn., September 5. He was born at Hartford, Conn., Apr. 1, 1848, and after graduating from Yale in 1871, he became connected with the *Hartford Courant*, a connection maintained throughout his entire life until his death, when he was its editor. He advanced through various positions working under Gen. Joseph R. Hawley and Charles Dudley Warner, the associate editors, succeeding to the political writing of General Hawley when he became United States Senator, and the general responsibility for the paper after Mr. Warner's death in 1900. He introduced many features into this paper, the oldest newspaper to be continuously published in America, and gradually broadened its field, introducing in 1913 the Sunday edition which became very popular. He developed the policy of cooperative ownership of the publishing company's stock, sharing with his co-workers in the benefits and profits. He was actively interested in Republican politics, serving regularly as a delegate-at-large from Connecticut to the Republican National Conventions. In 1906-07 he was lecturer at Yale University of the Isaac H. Bromley Lectureship Foundation, discussing journalism as a profession and a public service.

In addition to his newspaper work Mr. Clark had many interests in Hartford, being a director of the Connecticut Mutual Life Insurance Company, of the Travelers Insurance Company, of the Phoenix (Fire) Insurance Company, and of the Collins Company. In 1910 he was a director of the Associated Press and served on its executive committee for many years. He was a member of the Connecticut State Constitutional Convention in 1902, and a director of the State Reformatory in 1909. He was also a member of the board of directors of the Connecticut Civil Service Reform Association, but he gradually lost his active interest in this movement and resigned from the organization, later advocating the repeal of the Connecticut Civil Service law, which was done in 1921. He was a director of the Hartford Public Library, of the Good Will Club, of the Connecticut Humane Society, and of the Hartford Retreat. From 1910-25 he was a fellow of the corporation of Yale University, and was also a trustee of the Wadsworth Athenaeum and the



Watkinson Library in Hartford. In 1910 he received the degree of L.H.D. from Trinity College, Hartford. He was well acquainted with several presidents of the United States and declined high public office from President Taft. He was at the time of his death one of the leading newspaper editors and publishers of the United States and his passing called forth many expressions of appreciation from other newspaper workers and public men generally.

**CLARK UNIVERSITY.** A non-sectarian university comprising a college for men and a co-educational graduate division of arts and sciences. The registration for the autumn of 1926 was 324, including 235 undergraduates, 65 graduate students, and 55 special students. The enrollment for the summer session was 214. There were 40 members in the faculty. Four professors, Jesse L. Bullock, assistant professor of chemistry, W. Elmer Ekblaw, associate professor of geography, Vernon A. Jones, associate professor of educational psychology, and Arthur F. Lucas, assistant professor of economics, and three instructors were added during the year. Leland L. Atwood, assistant professor of romance languages, and Dudley W. Willard, assistant professor of sociology, were appointed to fill vacant chairs. The productive funds amounted to approximately \$5,000,000. The library contained 105,000 volumes. President, Wallace W. Atwood, Ph.D. The university is situated at Worcester, Mass.

**CLASSIC ANTIQUITIES.** See ARCHÆOL-OGY.

**CLASSICAL PHILOLOGY.** See PHILOLOGY, CLASSICAL.

**CLAY.** In 1926 the production of china clay, ball clay, and other white grades in the United States continued in good volume and almost 500,000 short tons were shipped from American mines during the year. In addition, there was imported somewhat over 400,000 short tons, and the lower grades of imported clay were coming into direct competition with the American product, particularly as, while the lower grades could be sold cheaper in the United States, the higher grades which did not compete with the American products were sold at a higher price. During the year there was discovered in Texas a white clay that fuses to glass at 2100 degrees F, being a clay with the firing behavior of feldspar, but highly viscous when melted. There was an increased tendency during the year to ship clay in bulk in paper-lined cars, from which

it was unloaded by air suction to elevated tanks. During the year there was an increase in South Carolina production and there was an effort being made to increase the production of North Carolina grades and to standardize the product. The U. S. Bureau of Mines reported the clay sold by producers in the United States to amount to 4,030,420 short tons and to have a total value of \$12,736,632. This was distributed as follows: Kaolin or china clay and paper clay, 367,319 short tons, valued at \$3,220,719; ball clay, 109,607 tons, valued at \$699,427; slip clay, 7349 tons, valued at \$37,397; fire clay, 2,566,934 tons, valued at \$7,312,349; stoneware clay, 77,438 tons, valued at \$162,161; miscellaneous clay, which includes brick clay and that used in the manufacture of building and drainage materials, also for cosmetics, filtering oil, flower pots, insecticides, modeling, soap filler, softening water, taxidermy, and other purposes, 4,030,420 tons, valued at \$12,736,632. The American clay mining industry in 1925 increased nine per cent over that for 1924 and the sales of clay were the largest ever recorded, being 11 per cent greater than in 1924 and 221 per cent greater than in 1915. Domestic clays were being used in the higher grades of ceramic production, in the paper industry for coating and filler, and for other fillers, in artificial abrasives as a binder, and for other purposes.

The Department of Commerce announced that, according to data collected at the census of manufactures taken in 1926, the establishments engaged primarily in the manufacture of clay products and non-clay refractories reported, for 1925, a total output valued at \$447,670,009, an increase of 2.7 per cent as compared with \$436,064,290 for 1924, but a decrease of three-tenths of 1 per cent as compared with \$448,834,938 for 1923.

The value of clay products and non-clay refractories for 1925 is made up as follows: Brick, tile, and other clay products except pottery, \$314,976,773; pottery, \$112,018,500; non-clay refractories, \$20,684,431. The percentages of increase or decrease which these values represent as compared with the corresponding figures for 1924 are, respectively, 5.0 per cent,—5.1 per cent and 12.9 per cent.

The census statistics for 1925 are presented in the accompanying table though they are preliminary and subject to correction, as may be found necessary upon further examination of the returns.

CLAY PRODUCTS AND NONCLAY REFRACTORIES—NUMBER OF ESTABLISHMENTS AND VALUE OF PRODUCTS FOR THE UNITED STATES: 1925, 1924, AND 1923

	1925	1924	1923	Per cent of increase (+) or decrease (—) 1924—1923— 1925 1924	
Total value of products .....	\$447,670,009	\$436,064,290	\$448,834,938	+ 2.7	— 2.8
Clay products:					
Number of establishments .....	2,876	2,353	2,287	+ 0.9	+ 2.9
Value of products .....	426,995,273	\$417,976,669	\$427,764,526	+ 2.2	— 2.3
Brick, tile, and other clay products except pottery—					
Number of establishments .....	2,026	2,023	1,983	+ 0.1	+ 2.0
Value of products .....	\$314,976,773	\$299,961,634	\$312,818,459	+ 5.0	— 4.2
Per cent of total clay products ....	73.8	71.8	73.1	.....	.....
Pottery—					
Number of establishments .....	350	330	304	+ 6.1	+ 3.6
Value of products .....	\$112,018,500	\$118,014,985	\$114,951,067	— 5.1	+ 2.7
Per cent of total clay products ....	26.2	28.2	26.9	.....	.....
Nonclay refractories:					
Number of establishments .....	40	59	59	.....	.....
Value of products .....	\$20,864,431	\$18,080,621	\$20,694,059	+ 12.9	— 12.9
Other nonclay products:					
Value .....	\$310,305	\$57,000	\$376,353	+ 444.4	+ 84.9



**CLIMATE.** See METEOROLOGY.

**CLUBS, BOYS' AND GIRLS'.** See AGRICULTURAL EXTENSION WORK.

**COAL.** The coal strike in Great Britain was naturally the most important incident in the world's coal industry during the year, and its effects were felt not only in Great Britain itself, but also in Europe and in the United States. With the greatly decreased production from Britain the output of other countries was stimulated and in the United States in particular the production all but equaled that of the best years previously.

**UNITED STATES COAL PRODUCTION.** The United States coal production in 1926 as estimated by the Bureau of Mines for both bituminous and anthracite is given in the accompanying table which shows the output by months and daily averages.

ESTIMATED MONTHLY AND AVERAGE DAILY PRODUCTION OF COAL IN THE UNITED STATES, 1926  
[Net tons]

	Bituminous		Anthracite	
	Month	Daily average	Month	Daily average
January	53,662,000	2,121,000	173,000	7,000
February	46,577,000	1,949,000	2,083,000	87,000
March	46,137,000	1,709,000	8,790,000	326,000
April	40,079,000	1,559,000	8,217,000	329,000
May	39,059,000	1,538,000	8,054,000	322,000
June	41,992,000	1,615,000	8,937,000	344,000
July	43,472,000	1,672,000	8,427,000	324,000
August	46,352,000	1,783,000	8,226,000	316,000
September	48,976,000	1,959,000	8,444,000	338,000
October	54,592,000	2,100,000	8,675,000	347,000
November	59,721,000	2,398,000	7,446,000	310,000
December	57,671,000	2,218,000	7,528,000	290,000
Total for year	578,290,000	1,880,000	85,000,000	280,000

The total production of bituminous coal in the United States during the calendar year of 1926 was estimated by the United States Bureau of Mines in its preliminary statistics at 578,290,000 net tons. The final reports from the operators would change this figure somewhat, but probably not more than 2 per cent. For the year 1925 the Bureau's preliminary estimate was 522,967,000 tons. The final complete reports from the operators showed 520,052,741 tons, or an error in the preliminary estimates of six-tenths of 1 per cent. The following tabulation gives the production of bituminous coal in the United States for the years specified, the figures for 1926 being the estimates referred to above, and those from 1918 to 1925 are the final figures on production as reported by the operators.

ESTIMATED UNITED STATES PRODUCTION OF BITUMINOUS COAL  
[Net tons]

Period	Production	Average per working day
Calendar year:		
1918	579,386,000	1,881,000
1920	568,667,000	1,847,000
1923	564,565,000	1,845,000
1924	483,687,000	1,573,000
1925	520,053,000	1,692,000
1926	578,290,000	1,880,000

PRODUCTION OF SOFT COAL BY STATES—1925  
[Net tons]

	Total
Alabama	20,004,000
Arkansas	1,220,000
Colorado	10,811,000
Illinois	66,909,000

PRODUCTION OF SOFT COAL BY STATES—1925—Continued

	Total
Indiana	21,225,000
Iowa	4,715,000
Kansas	4,524,000
Kentucky:	
Eastern	42,882,000
Western	12,187,000
Maryland	2,695,000
Michigan	808,000
Missouri	2,694,000
Montana	3,044,000
New Mexico	2,557,000
North Dakota	1,325,000
Ohio	28,034,000
Oklahoma	2,326,000
Pennsylvania	136,928,000
Tennessee	5,454,000
Texas	1,008,000
Utah	4,690,000
Virginia	12,800,000
Washington	2,538,000
West Virginia	122,381,000
Wyoming	6,553,000
Other States*	241,000
Total bituminous production	520,053,000

\* Includes Alaska, California, Georgia, Idaho, North Carolina, Oregon, and South Dakota.

The 1926 production of bituminous coal in the United States (578,290,000 tons) was more than 9,000,000 tons above the 1920 production (568,666,683 short tons) which stood as the peace-time record in the industry, and was almost exactly equal to the record output of the year 1918 (579,385,820 short tons). The reasons for this increase were several. In the first place, the anthracite strike, which was four months old at the beginning of the year, continued for another month and a half, so that the increased demand for bituminous coal was felt for several weeks further. As a result, the output of bituminous for the first four months of 1926 was 226,000,000 tons, as compared with 198,000,000 and 204,000,000 tons for the corresponding periods of 1924 and 1925. The most important factor, as stated, was the British strike, which began May 1 and is discussed elsewhere in the YEAR BOOK under GREAT BRITAIN, section *History*.

As distinct from the anthracite strike in Pennsylvania, the British struggle had an effect in world markets, developing a demand for American coal to be exported, and this was done to such a degree that the exports and production continued at a high rate until the end of the year. The production for the four months, September to December, inclusive, was nearly 224,000,000 tons, as compared with 179,000,000 tons for the same period in 1924 and 202,000,000 tons in 1925, during the anthracite strike. The year 1926 in the American industry also was marked by new records for weekly and monthly production, the maximum for a week being that ending December 4, when 14,676,000 tons were produced, as compared with the previous record of 13,344,000 tons made in the week of Oct. 25, 1924. This would mean, if sustained throughout the year, an annual production of more than 765,000,000 tons. The maximum month's production was in November, when the output was 59,721,000 tons, which may be compared with October, 1919, when 57,200,000 tons were produced. Notwithstanding the increased production there was a decline in the amount of labor involved, and from 704,793 employees in 1923 there was a reduction to 588,493 in 1925, or 16.5 per cent. The average output per man employed increased from 781 to 884 tons. The exports from

Atlantic ports in 1926 approximated 22,000,000 tons, as compared with the annual average for the previous three years of 5,000,000 tons, and this amount was estimated as slightly in excess of the previous high record of 1920. In other words, the British strike afforded the United States industry a market for some 14,000,000 tons of bituminous coal, contributing to the general prosperity of the industry.

**UNITED STATES PRODUCTION OF ANTHRACITE COAL.** The total production of anthracite coal for the calendar year 1926 was estimated at approximately 85,000,000 net tons by the United States Bureau of Mines in its preliminary statistics. This estimate showed a gain of 23,183,000 tons or 37.5 per cent when compared with 1925 when the total output amounted to 61,817,000 tons. The production was curtailed in both years by four months of strike in 1925 and two months in 1926. Compared with 1924 and 1923 the decrease in 1926 amounted to 3 per cent and 8.9 per cent respectively.

At the beginning of the year the anthracite industry was completely tied up by the strike which began on Sept. 1, 1925. According to the Anthracite Bureau of Information this was the first time in more than a century of anthracite production that mining operations were completely tied up in the middle of winter, by a strike which began on September 1 and was not terminated until February 18, of the following year. This strike not only cut off all production at a period of the year when anthracite was most needed; but it was the longest one in anthracite history, the elapsed time having amounted to 170 days.

It was estimated that during the five and one-half months the mines were idle the loss to the mine workers in wages was not less than, and probably exceeded, \$150,000,000. The out-of-pocket expense to the operators in the maintenance of the properties was approximately \$35,000,000, and if the loss of possible profits was included, the industry was probably between \$45,000,000 and \$50,000,000 to the had as compared with what it would have been had the mines remained active. The losses to the business interests in the region were enormous, consumers of anthracite were seriously inconvenienced and forced to the adoption of substitutes for their customary and preferred fuel, the families of the mine workers suffered many privations, and the miners gained nothing as the result of the strike.

The anthracite miners returned to work at the previously existing wage scales and under an agreement extending to Aug. 31, 1930, which embodied the principle of arbitration, in that:

At any time after January 1, 1927, but not oftener than once in any year, either party may, in writing, propose modifications in the wage scales of said contract. The parties agree within fifteen days after receipt of such written proposals, to start conferences in the usual manner in an effort to agree upon such modifications.

If within thirty days after starting such negotiations, the parties have not agreed, all issues in controversy shall be referred to a Board of two men with full power and without reservations or restrictions; and the parties agree to abide by any decision or decisions of such Board, either on the merits of the controversy or as to procedure to be followed. Such Board shall be appointed as follows:

The Operators shall name three men and the Miners shall name three men. The Operators shall select one man from the Miners' list and the Miners shall select one man from the Operators' list, and the two men so approved shall constitute said Board. Unless otherwise agreed, the men named by the parties shall not be con-

nected with the United Mine Workers of America or the business of mining coal. The Board shall be obligated, within 90 days after appointment, to arrive at a decision on all issues in controversy, and to that end shall formulate their own rules and methods of procedure and may enlarge the Board to an odd number, in which event a majority vote shall be binding.

The resumption of work was followed by general activity and steady production which was maintained throughout the year. The actual working time lost to the anthracite mine workers from January 1 to February 18, was 39 days, and the loss in production was in the neighborhood of 10,000,000 gross tons. Much was accomplished, however, in the making up for lost time after operations were resumed. Work was unusually active during the summer months of 1926, and up to the end of November half of the lost tonnage was made up, the total production for the first eleven months of 1926, according to the United States Bureau of Mines, amounting in round numbers to 68,650,000 gross tons, as compared with 73,527,000 tons for the same period in 1924, a year of normal production, and exceeding that of 1925, by over 12,000,000 tons. With an average production for December, the total output of anthracite for the year 1926, will have amounted to about 76,700,000 gross tons. The production during the previous five normal years was as follows, the strike years 1922 and 1925 being excluded:

Year	Total production Gross tons
1919.....	78,501,931
1920.....	79,998,437
1921.....	80,779,867
1923.....	83,338,401
1924.....	78,506,127

Excluding the abnormal war years of 1917 and 1918, and the subnormal strike years of 1922 and 1925, the average annual production of anthracite since and including 1911, has amounted in round numbers to 79,790,000 gross tons, and including the abnormal and subnormal years, the average annual production since 1911, a period of fifteen years, was 76,832,000 gross tons, a figure which the output in 1926 closely approximates.

Except for extraordinary rains which resulted in the flooding of many mines and consequently in reduced tonnages in the early part of November, the production in 1926 would closely have approached the larger average.

According to the Anthracite Bureau of Information the somewhat unusually large production in the summer months of 1926 moved quite freely without the incentive of "spring and summer discounts" from the mines to the dealers' yards and from them to the bins of consumers, so that comparatively small quantities of the domestic sizes were placed in storage in that usually dull season. The experience of the winter of 1925-26 not having been entirely forgotten, consumers able and willing to provide in advance against their winter needs, did so, and the arrival of winter weather early in December found most of the larger users prepared for it. So well, indeed, had provision been made that demand for anthracite in the closing month of the year was lighter than at any time after operations were resumed in February.

As indicative of the manner in which the production was distributed, the reports of the

American Railway Association show that the shipments of anthracite through the New England gateways up to the end of November, 1926, amounted to 152,230 cars, as compared with 126,569 cars for the same period in 1925 and 148,453 cars in 1924. The exports to Canada to the end of October, 1926, as reported by the U. S. Bureau of Foreign and Domestic Commerce, were 2,904,297 gross tons, against 2,727,230 tons in 1925 and 3,021,555 tons in 1924. The lake shipments from Buffalo and Erie, reported by the Ore and Coal Exchange of Cleveland, amounted in 1926 to 2,551,712 gross tons, against 1,601,354 tons in 1925, and 2,814,516 tons in 1924.

The main revenue of the anthracite industry is derived from the fresh-mined commercial product, i.e., the mined tonnage shipped or sold locally, exclusive of that recovered from the old culm banks by washeries and from creek and river beds by dredges, and that portion of the mined product which is consumed in the generation of heat and power at the collieries. While figures for 1926 are not available, the following table giving the quantity and value of the fresh-mined commercial tonnage, as taken from a preliminary report issued by the United States Bureau of Mines, in the five preceding years is illuminating. It is estimated that the 10 per cent increase in the wage rate and other concessions to the miners forced upon the industry by the "Pinchot compromise" of 1923, added in excess of \$30,000,000 to the labor cost of production. In spite of that fact, however, the average value per ton at the mines in 1924 was 5 cents less than it was in 1923, and only 25 cents more than it was in 1922, while in 1925, the year of strike and shortage of supply, the average return per ton to the operators was 12.3 cents less than in 1924, 17.3 cents less than in 1923, and only 12.7 cents more than in 1922. These official figures were quoted by the anthracite operators as refutation of any charge that the anthracite producers took any advantage of the emergency of 1925 to advance prices on their product:

Year	Commercial production Gross tons	Value at mines	Average value per ton at mines
1921 . . . . .	70,191,076	\$437,488,640	\$6.233
1922 . . . . .	39,768,901	255,574,915	6.426
1923 . . . . .	71,718,088	482,404,160	6.726
1924 . . . . .	69,906,363	486,720,562	6.676
1925 . . . . .	48,805,380	319,862,247	6.553

CANADA. The Canadian coal mining industry in 1926 had an output of more than 16,100,000 tons and it was stated that its reserves included approximately 16 per cent of the world's supply. Canada was in a unique position inasmuch as its coal mines were located in the provinces of Nova Scotia and New Brunswick in the east and in Saskatchewan, Alberta, and British Columbia in the west, so that for the intermediate region imports from the United States were extensively used. The exports of Canada in 1926 amounted to 900,000 tons, while the imports from the United States totaled 17,120,000 tons, and from other countries 400,000, so that the total available for consumption amounted to 32,725,000 tons, of which 4,020,000 tons were anthracite, 24,960,000 tons bituminous, 401,000 sub-bituminous, and 3,344,000 lignite. The total consumption was estimated for the year at 28,460,000 tons. The output of the Nova Scotia mines in 1926 was

stated at 6,810,000 tons, while that of New Brunswick was 168,000 tons, or a decline from the 208,012 tons produced in 1925. The province of Alberta produced 6,117,000 tons, including 2,960,000 tons of lignite, 2,750,000 tons of bituminous coal, and 400,000 tons of sub-bituminous. Saskatchewan produced 376,000 tons of lignite, and British Columbia had an output of 2,634,000 tons of bituminous, a large part of which was exported. See CANADA.

BRITISH COAL INDUSTRY. The coal mining industry in Great Britain on account of the great strike in 1926 functioned for less than six months. From the first of May until early in December production was suspended except at a few pits in the Midlands area where a partial operation was carried on by miners returning before the strike ended. Whereas the output in 1925 had been 244,430,886 gross tons, in five months of 1926, not counting December, it amounted to 112,257,060. Naturally there was a considerable increase in bunker prices and the value of imported coal for domestic consumption which, for the strike period, aggregated 17,794,701 gross tons, reached £37,177,033, and attained an average price in November of £2 12s. 1d. per ton. One result of the strike was to extend the working day in every district, either by an hour or a half-hour, and at the end of the year it was estimated that some 575,600 miners employed before the strike would be working in districts on an eight-hour basis and 536,000 would be working in districts on a seven and one-half hour basis.

FRENCH AND BELGIAN COAL INDUSTRY. The British strike stimulated production in France and Belgium, and in both countries the output exceeded the pre-war average, in the case of France being ahead of that of 1925. With the increase in price, wages were also increased and there were also increased costs of supplies and advances in transportation rates. The total French production for 1926, based upon actual figures for the first ten months, was estimated at 52,000,000 metric tons, as compared with 48,000,000 tons in 1925 and 42,000,000 tons in 1913. In the last-named year this figure was exclusive of production from the Lorraine mines, which in 1926 produced approximately 5,400,000 tons. The imports into France declined after the British strike, but France took coal from Germany, Belgium, and Holland. On the other hand, the exports increased during the year, being 3,836,000 tons for ten months, as compared with 3,691,000 tons for a corresponding period in 1925. The French consumption for the year was estimated at 76,000,000 tons.

The Belgian coal industry also benefited by the British strike, its domestic industrial market being reestablished, and many mines which had been unable to work to capacity were actively engaged during the year. The production for ten months of 1926 was 20,652,000 metric tons, or a monthly average of 2,065,000 tons, as compared with a monthly average of 2,174,000 in 1925 and 1,903,000 in 1913. In this ten months' period Belgium imported 6,408,000 tons of coal, of which Germany supplied 3,349,000 tons. In the ten months' period Belgium exported 3,158,000 tons, as compared with 2,155,000 tons during the corresponding months of 1925, France being the largest customer. Although there was a decrease in wages at the beginning of the year, by May an increase was

## VALUES OF FOREIGN COINS

Country	Legal standard	Monetary unit	Value in terms of U. S. money	Remarks	
Argentine Republic . . .	Gold	Peso . . . . .	\$0.9648	Currency: Paper, normally convertible at 44 per cent of face value; now inconvertible.	
Austria . . . . .	Gold	Schilling . . . . .	.1407		
Belgium . . . . .	Gold and silver	Belga . . . . .	.1890	1 belga equals 5 paper francs.	
Bolivia . . . . .	Gold	Boliviano . . . . .	.3893	12½ bolivianos equal 1 pound sterling.	
Brazil . . . . .	Gold	Milreis . . . . .	.5462	Currency: Government paper a part of which is legally convertible at 16 pence (= \$0.3244) per milreis; now inconvertible.	
British Colonies in Australasia and Africa .	Gold	Pound sterling . . . . .	4.8665		
British Honduras . . . .	Gold	Dollar . . . . .	1.0000		
Bulgaria . . . . .	Gold	Leva . . . . .	.1930		
Canada . . . . .	Gold	Dollar . . . . .	1.0000		
Chile . . . . .	Gold	Peso . . . . .	.1217		
China . . . . .	Silver	Tael	Amoy . . . . .	.6513	The tael is a unit of weight; not a coin. The customs unit is the Haikwan tael. The values of other taels are based on their relation to the value of the Haikwan tael. The Yuan silver dollar of 100 cents is the monetary unit of the Chinese Republic; it is equivalent to .644 + of the Haikwan tael.
			Canton . . . . .	.6493	
			Cheefoo . . . . .	.6229	
			Chin Kiang . . . . .	.6362	
			Fuchau . . . . .	.6024	
			Haikwan . . . . .	.6627	
			Hankow . . . . .	.6093	
			Kiaochow . . . . .	.6311	
			Nanking . . . . .	.6445	
			Ninchwang . . . . .	.6107	
			Ningpo . . . . .	.6261	
			Peking . . . . .	.6349	
			Shanghai . . . . .	.5949	
			Swatow . . . . .	.6016	
			Takau . . . . .	.6554	
			Tientsin . . . . .	.6311	
	Dollar	Yuan . . . . .	.4220	Mexican silver pesos issued under Mexican decree of No. 13, 1918, are of silver content approximately 41% less than the dollar here quoted, and those issued under decree of Oct 27, 1919, contain about 51% less silver.	
		Hongkong . . . . .	.4283		
		Mexican . . . . .	.4315		
Colombia . . . . .	Gold	Peso . . . . .	.9733	Currency: Government paper and silver.	
Costa Rica . . . . .	Gold	Colon . . . . .	.4653	Law establishing conversion office fixes ratio 4 colons = \$1 U. S.	
Cuba . . . . .	Gold	Peso . . . . .	1.0000		
Denmark . . . . .	Gold	Krone . . . . .	.2680		
Dominican Republic . .	Gold	Dollar . . . . .	1.0000	U. S. money is principal circulating medium.	
Ecuador . . . . .	Gold	Sucre . . . . .	.4867		
Egypt . . . . .	Gold	Pound (100 piasters) . . . . .	4.9431	The actual standard is the British pound sterling, which is legal tender for 97½ piasters.	
Estonia . . . . .	Gold	Kroon . . . . .	.2680		
Finland . . . . .	Gold	Markka . . . . .	.0252		
France . . . . .	Gold and silver	Franc . . . . .	.1930	Member Latin Union.	
Germany . . . . .	Gold	Reichsmark . . . . .	.2382		
Great Britain . . . . .	Gold	Pound sterling . . . . .	4.8665		
Greece . . . . .	Gold and silver	Drachma . . . . .	.1930	Member Latin Union.	
Guatemala . . . . .	Gold	Quetzal . . . . .	1.0000		
Haiti . . . . .	Gold	Gourde . . . . .	.2000	Currency: National bank notes redeemable on demand in American dollars.	
Honduras . . . . .	Gold	Lempira . . . . .	.5000		
Hungary . . . . .	Gold	Pengö . . . . .	.1749		
India [British] . . . . .	Gold	Sovereign . . . . .	4.8665	The British sovereign and half sovereign are legal tender in India at 10 rupees per sovereign, actual exchange rates approximate 18 pence (36½ cents) to the rupee.	
	Silver	Rupee . . . . .	.1888		
Indo-China . . . . .	Silver	Piaster . . . . .	.4290		
Italy . . . . .	Gold	Lira . . . . .	.1930	Member Latin Union.	
Japan . . . . .	Gold	Yen . . . . .	.4985		
Latvia . . . . .	Gold	Lat . . . . .	.1930		
Liberia . . . . .	Gold	Dollar . . . . .	1.0000	Currency: Depreciated silver token coins. Customs duties are collected in gold.	
Lithuania . . . . .	Gold	Litas . . . . .	.1000	Currency: Notes of the bank of Lithuania, not now convertible.	
Mexico . . . . .	Gold	Peso . . . . .	.4985		
Netherlands . . . . .	Gold	Guilder (florin) . . . . .	.4020		
Newfoundland . . . . .	Gold	Dollar . . . . .	1.0000		
Nicaragua . . . . .	Gold	Cordoba . . . . .	1.0000		
Norway . . . . .	Gold	Krone . . . . .	.2680		
Panama . . . . .	Gold	Balboa . . . . .	1.0000		
Paraguay . . . . .	Gold	Peso (Argentine) . . . . .	.9648	Currency: Depreciated Paraguayan paper currency.	
Persia . . . . .	Silver	Kran . . . . .	.0731	Currency: Silver circulating above its metallic value. Gold coin is a commodity only, normally worth double the silver.	
Peru . . . . .	Gold	Libra . . . . .	4.8665		
Philippine Islands . . . .	Gold	Peso . . . . .	.5000		
Poland . . . . .	Gold	Zloty . . . . .	.1980		

Country	Legal standard	Monetary unit	Value in terms of U. S. money	Remarks
Portugal	Gold	Escudo	1.0805	Currency: Inconvertible paper.
Rumania	Gold	Leu	.1930	
Russia	Gold	Ruble	.5146	Pre-war unit.
Salvador	Gold	Colon	.5000	
Siam	Gold	Tical	.3709	
Spain	Gold and silver	Peseta	.1930	Valuation is for gold peseta; currency is notes of the bank of Spain.
Straits Settlements	Gold	Dollar	.5678	
Sweden	Gold	Krona	.2680	
Switzerland	Gold	Franc	.1930	
Turkey	Gold	Piaster	.0440	Member Latin Union.
Uruguay	Gold	Peso	1.0342	(100 piasters equal to the Turkish £)
Venezuela	Gold	Bollivar	.1930	Currency: Inconvertible paper.
Yugoslavia	Gold	Dinar	.1930	

made and increased prices of coal were secured by the producers to compensate for the higher wages. The year 1926 was, all things considered, a favorable one to the coal industry in both France and Belgium.

**COCHIN-CHINA**, kō'chin-chī'na. The southernmost colony in French Indo-China (q.v.). Area, estimated at 26,476 square miles; population, estimated in 1924 at 4,001,093, consisting chiefly of Annamites, Cambodians, Moïs, Chams, and Chinese, with a few Indians, Malays, Tagals, and foreigners. In 1924 there were 11,439 French and 654 European foreigners. Saigon, the capital, had a population in 1924 of 108,566, of whom 8444 were Europeans, exclusive of 3066 troops. Cholon had a population of 233,270, of whom 122,185 were Chinese. There are about 1134 schools with 2554 teachers and 90,070 pupils. The principal product and the largest item of export is rice, over 80 per cent of the cultivable land being given over to its production. The rice crop for 1925 was estimated at 2,215,263 metric tons, of which 1,095,441 tons were available for export. Other crops are maize, beans, rubber, sugarcane, ground-nuts, tobacco, coffee, fruits, etc. Other sources of wealth are livestock and fisheries, the annual output of the latter being placed at 2,800,000 francs. There are 11 rice mills in Saigon and Cholon which have a daily output of 3000 tons of rice. There are also in these cities two sawmills, two soap factories and a varnish factory. Commerce is largely in the hands of the Europeans and the Chinese, although the Annamites are traders on a small scale. During 1924, 749 steamers of 1,599,368 tons entered the port of Saigon and 752 vessels of 1,608,254 tons cleared. The total exports in 1924 amounted to 1,341,336,000 francs and the total imports, 818,656,983 francs. The budget for the year, 1925, balanced at 14,079,850 piastres. Cochin-China is ruled directly by a governor and council of 24 members. It is represented in the French parliament by one deputy.

**CODIFICATION**, LAW. See INTERNATIONAL LAW.

**COFFIN**, CHARLES ALBERT. American manufacturer and financier, died at Locust Valley, N. Y., July 14. He was born in Somerset County, Me., in 1844, and after graduating from the Bloomfield Academy went to Boston, where he became interested in the shoe and leather industry. As a member of the firm of Coffin & Clough he established a factory at Lynn, Mass., and in 1883 purchased the American Electric Company of New Britain, Conn., a small concern at that time headed by Prof. Elihu Thomson. This business was moved to Lynn, and its name changed to the Thomson-Houston Electric Company in honor of Professor Thomson and Prof. Edwin J. Houston who was associated with him in the enterprise. This company, of which Mr. Coffin be-

came vice-president and treasurer, developed the central station idea as applied to arc lighting, and in 1888 Mr. Coffin, who became the leader in many fields of development, brought the company into the electric railway field, manufacturing equipment for electric street car lines throughout the United States.

The success of this work led to the absorption of other electric companies, and finally in 1892 the Thomson-Houston Company was consolidated with the Edison General Electric Company of New York under the name of the General Electric Company. Mr. Coffin was elected its president and served in this capacity until June, 1913, when he was made chairman of the board of directors, retaining this office until 1922. His leadership during this long period was strong and constructive. The engineering and research work of the company received his active support, and under his control the Curtis steam turbine was developed by the company's engineers with the result that the primary power resources of the electric industry were revolutionized. In 1901, he endorsed the movement to establish a laboratory for electrochemical research, from which developed later the research laboratory of the General Electric Company.

In 1915, Mr. Coffin organized the War Relief Clearing House for France and her allies, which later was consolidated with the American Red Cross; throughout the War he was active in the work of this organization. For his activities during the World War he was honored by being made an officer of the Legion of Honor, of France; a commander at one time of the Order of Leopold II, of Belgium; and a member of the Order of Saint Sava, of Serbia. In 1922 at the time of his retirement from the board of directors of the General Electric Company that corporation established a fund of \$400,000 to be known as the Charles A. Coffin fund, the income of which was to be devoted to encouraging the study and the application of the science of electricity.

Mr. Coffin was a broad-minded industrialist, a keen financier, and an active manufacturer with a high degree of original ability, which brought the General Electric Company to preëminence in all its relations. As early as 1914 he received the degree of LL.D. from Union College in Schenectady, N. Y.; in 1919 Yale awarded him the honorary degree of M.A.; in 1922 he was given an LL.D. by Bowdoin; and in 1924 the same degree by Princeton. He was a director of the General Electric Company and many other corporations.

**COINS**, VALUES OF FOREIGN. The legal estimates of the values of foreign coins on Jan. 1, 1927, as issued by the Secretary of the Treasury are given in the table on page 184 and on this page.

**COKE**. In 1925 the coke produced in the United States was estimated at 50,702,000 tons,

as compared with 56,977,534 tons in 1923, the year of record production. Of the 1925 output 10,714,000 tons were beehive coke and 39,988,000 were by-product coke. This was the output of 74 by-product plants, 48 of which were affiliated with iron furnaces and 26 were non-furnace plants. The production of the furnace plants was 83.2 per cent of the total, as against 82.5 per cent in 1924 and 73.5 per cent in 1916. The by-products obtained from coke oven operation in 1925 had a total value of \$122,725,524, exclusive of coke breeze, which amounted to \$8,945,345. The leading productions were: Tar to the value of \$11,903,196; ammonia, \$27,513,793; gasoline, \$61,484,219; light oils and derivatives, \$21,594,357; and naphthalene, crude and refined, \$97,493. The total value of coke and by-products per ton of coke produced for the year 1925 was \$8.86, as compared with \$10.33 in 1923 and \$13.55 in 1920. Naturally Pennsylvania was the leading producer of coke, followed by Ohio,

institution of higher education at Hamilton, N. Y.; founded in 1819. In the autumn of 1926 there were 905 students enrolled, and 69 members on the faculty. The productive funds amounted to \$4,077,577.21, and the income for the year to \$386,373.13. The new recitation hall, begun in 1925, was completed, at a cost of \$400,000. The library contained 107,000 volumes. President, George Barton Cutten, Ph.D., D.D., LL.D.

**COLITIS.** ULCERATIVE. See DYSENTERY.

**COLLEGES.** See UNIVERSITIES AND COLLEGES.

**COLOMBIA.** A South American Republic in the northwestern part of the continent. Capital, Bogota.

**AREA AND POPULATION.** The area of Colombia is given at 440,846 square miles and the population according to the census of Oct. 14, 1918, 5,855,077; estimated in 1925 by the Colombia Year Book, 7,000,000. The total population was distributed as follows: Whites, 20 per cent;

NUMBER AND PRODUCTION OF BY-PRODUCT COKE PLANTS CONNECTED WITH IRON FURNACES AND OF ALL OTHER PLANTS, 1920-1925

Year	Number of active plants		Coke produced (net tons)		Percentage of production	
	Furnace plants	Other plants	Furnace plants	Other plants	Furnace plants	Other plants
1920 . . . . .	45	23	25,212,745	5,621,206	81.8	18.2
1921 . . . . .	45	22	16,231,374	3,518,206	82.2	17.8
1922 . . . . .	43	21	23,889,702	4,660,843	83.7	16.3
1923 . . . . .	44	21	31,117,323	6,480,341	82.8	17.2
1924 . . . . .	50	25	28,029,647	5,953,921	82.5	17.5
1925 . . . . .	48	26	38,208,442	6,703,717	83.2	16.8

The final returns of the by-products recovered in 1925 are tabulated below. These figures include all by-products except coke breeze, of which 3,546,099 tons, valued at \$8,945,345, were produced at by-product plants and 272,556 tons valued at \$453,012 at beehive plants.

BY-PRODUCTS OBTAINED FROM COKE-OVEN OPERATIONS IN 1925

Product	Unit	Production	Quantity	Sales	
				Total	Average
Tar . . . . .	Gallons..	480,846,814	240,160,986	\$11,903,196	\$0.049
Ammonia					
Sulphate . . . . .	Pounds..	1,017,014,550	989,676,520	22,546,908	.023
Ammonia liquor (NH <sub>3</sub> content) . . . . .	do....	65,255,767	54,809,385	4,966,885	.091
				27,513,793	....
Sulphate equivalent of all forms . . . . .	do ...	1,278,037,618	1,208,913,860	.....	....
Gas:					
Used under boilers, etc . . . . .	M. cu. ft	639,644,062	25,239,072	1,451,258	.057
Used in steel or affiliated plants . . . . .	do ....		280,080,325	26,380,657	.115
Distributed through city mains . . . . .	do ....		77,457,262	29,319,809	.379
Sold for industrial use . . . . .	do ....		29,527,613	4,333,000	.147
			362,254,272	61,484,219	.170
Light oil and derivatives:					
Crude light oil . . . . .	Gallons..	146,443,106	10,201,900	1,052,585	.103
Benzol, crude . . . . .	do ....	6,119,160	5,907,106	1,321,697	.224
Refined . . . . .	do ....	16,231,714	15,909,280	3,566,643	.224
Motor benzol . . . . .	do ....	81,469,925	80,957,983	18,441,422	.166
Toluol, crude . . . . .	do ....	127,584	46,789	10,052	.215
Refined . . . . .	do ....	5,329,560	4,991,358	1,300,784	.261
Solvent naphtha . . . . .	do ....	4,744,431	3,993,735	805,251	.202
Other light oil products . . . . .	do ....	2,366,246	1,252,451	96,078	.077
		116,888,620	123,260,602	21,594,357	.175
Naphthalene:					
Crude . . . . .	Pounds..	9,238,890	9,692,185	92,369	.010
Refined . . . . .	do ....	1,018	208,832	5,124	.025
		9,239,908	9,900,617	97,493	.010
Other products . . . . .				132,466	....
Value of all by-products sold . . . . .				\$122,725,524	....

\* Includes gas wasted and gas used for heating retorts.

<sup>b</sup> Refined on the premises to make the derived products shown, 143,296,567 gallons.

<sup>c</sup> Total gallons of derived products.

<sup>d</sup> Exclusive of the value of breeze production, which in 1925 amounted to \$8,945,345.

Alabama, Indiana, and Illinois. See COAL. negroes, 5 per cent; Indians, 7 per cent; mulattoes, 18 per cent; mestizos, 50 per cent. The

COLGATE UNIVERSITY. A non-sectarian

capital, Bogota, had a population in 1918 of 143,994, and estimated in October, 1923, at 166,148. The country is divided into 14 departments, three intendencias, and six commissionerships. Other important towns with their populations in 1918 are: Barranquilla, 64,543, estimated in 1923, 81,330; Medellin, 79,146, estimated in 1923, 86,041; Cartagena, 51,382, estimated in 1923, 68,119; Cali, 45,825, estimated in 1923, 68,777; and Manizales, 43,203, estimated in 1923, 51,838.

**EDUCATION.** Education is free but not compulsory. The following table derived from the Pan American Union gives the number of educational institutions which held sessions during 1924 and the registration therein:

	<i>Institutions</i>	<i>Enrollment</i>
Primary instruction .....	6,674	395,541
Secondary instruction .....	302	6,569
Normal schools .....	17	911
Industrial schools .....	25	1,392
Schools of art .....	6	399
University instruction .....	24	1,122
<b>Total .....</b>	<b>7,048</b>	<b>405,934</b>

**PRODUCTION, MINERAL RESOURCES, ETC.** Agriculture and mining are the principal occupations of the country. The chief agricultural products are coffee, bananas, cacao, and hides. In the plateau region, of which Bogota, the capital, is the centre, the chief agricultural products are wheat and coffee. Only a small area

now being exploited are those at Chivor, also known as the Somondoco mines, which are reported to have an inferior grade of emerald. It is asserted that Colombia has more than 90 per cent of the world's production of emeralds.

The largest gold and silver mines in the country are at Marmato and Supia, near Manizales, which were recently taken over by the government from an English company. Many large coal deposits are known to exist, but present exploitation is entirely for supplying railroads and near-by towns. Deposits of asphalt, copper, lime, ceramic clay, mica, asbestos, graphite, and other minerals are known to exist, but have not yet been given exhaustive development. Twenty companies were reported as interested in the country's petroleum industry, three of them being domestic and the others foreign organizations. Only one company was producing at the time the above survey was made.

**COMMERCE.** The total foreign trade of Colombia for the year 1925 amounted to 170,193,089 pesos, of which 85,829,707 pesos represented imports and 84,363,382 pesos represented exports. The figures for the preceding year were: Imports, 52,347,914 pesos; exports, 85,780,541 pesos; total 138,128,455 pesos. The exports of coffee in 1925 were 1,870,431 bags valued at \$64,582,519. The following table supplied by the Pan American Union *Bulletin* shows the exports of principal articles for 1923 and 1924:

## EXPORTS BY PRINCIPAL ARTICLES

<i>Commodities</i>	<i>1923</i>		<i>1924</i>	
	<i>Quantity</i>	<i>Value</i>	<i>Quantity</i>	<i>Value</i>
Coffee .....	123,639,776	\$42,086,118	132,953,542	\$66,731,524
Gold, in bars, dust, etc. ....	11,134	4,108,999	4,272	1,834,774
Bananas .....	170,394,790	3,592,882	204,720,120	4,365,824
Platinum .....	1,499	3,520,452	1,608	3,823,049
Cattle hides .....	6,771,438	2,570,967	6,919,373	2,810,788
Cattle .....	27,084	656,810	28,238	761,285
Hats, Panama .....	46,933	331,064	53,182	344,236
Tagua .....	6,012,601	223,452	8,681,605	484,704
Tobacco .....	1,861,366	215,370	1,219,489	266,176
Rubber .....	478,598	133,700	428,565	146,541
Cotton .....	93,019	58,171	63,980	27,795
Pearls .....		46,560		31,525
Dividivi .....	2,054,006	34,532	1,012,754	26,186
Silver, in bars .....	967	34,187	2,217	98,144
Gold coin .....		9,123		218
Emeralds .....				410,122
Gold and silver, in bars .....				181,884
Heron plumes .....		7,145		45,338
Miscellaneous .....		682,440		817,567
<b>Total .....</b>		<b>\$58,311,972</b>		<b>\$83,207,125</b>

of the soil is cultivated although a large part of it is fertile. Absence of adequate transportation prevents production on a large scale. Other important products besides wheat and coffee are tobacco, vegetables, cotton, vegetable ivory, ivory nuts, dyewoods, corn, bananas, and rubber. Mineral resources are rich and varied. In July, 1926, the United States Bureau of Foreign and Domestic Commerce reported that platinum (q.v.) exports from Colombia increased in value from \$2,000,000 in 1922 to \$5,338,126 in 1924, while exports of gold for the same years decreased from \$5,800,000 to \$2,000,000. A little over half of the present production of platinum is taken by hand panning, and the remainder by the large companies, which dredge the river beds. This country now produces one-half of the world's platinum, most of the rest coming from Russia. The Colombian government receives half of the domestic production. The government also operates the emerald mines at Muzo, a Paris concern having a contract for marketing the output. The Muzo production was valued at \$250,000 in 1925. The only other emerald mines

**FINANCE.** The revenues and expenditures for 1925 balanced at 34,441,655 pesos and those for 1926 at 40,829,248 pesos. The budget for expenditures was divided as follows: Interior, 6,593,243; Foreign Affairs, 616,443; Treasury, 9,113,072; War, 3,497,994; Industries, 393,964; Education and Public Health, 3,164,992; Postal and Telegraph, 4,442,725; Public Works, 12,450,687; Controller, 306,272; Supplies, 249,853. The total public debt on June 30, 1925, was 30,075,268 pesos of which 18,293,585 was external and 11,781,683 internal debt.

**COMMUNICATIONS.** In August, 1925, the total length of the railways in Colombia was 1808 kilometers. In the autumn of 1926 a bill calling for the construction of approximately 722 miles of railway within the next four years in Colombia was submitted to the Colombian Congress by the Colombian government. The projected construction is mostly work in extending the various railroads now in operation. Included in the proposed construction are the completion of the Northern, the completion of the Tolima as far as Neiva, the extension of the Pacific from

Ibague to Armenia, and of the Caldas from Nacereros to Armenia. It also includes the proposed extension of the Pacific to Pasto and of the Antioquia from Bolombolo to Cartagena, and the completion through Tunja and Moniquira of the Carare and of the Cucuta Pamp-lona. In addition the bill proposes the extension of the Narino from Tumaco to Piedraccas on the Pasto motor road. It also proposed that the gov-ernment acquire the Santamarta, at present a private concern, and extend it. In the same bill the government seeks authorization to raise a loan of £20,000,000, which will be entirely de-voted to the proposed railroad extensions and other transportation improvements. The bill also calls for the election of a railway and transport board to advise the Ministry of Public Works in the plans and construction of the improve-ments.

GOVERNMENT. The executive power is vested in a president elected for four years by direct popular vote, and legislative power in a congress of two houses; the senate of 34 members, elected indirectly, and the house of representatives with 92 members elected by direct popular vote. Presi-dent at the beginning of 1926, Gen. Pedro Nel Ospina, elected Feb. 10, 1922, who assumed office August 7th of that year.

HISTORY. On February 14 the people of Colombia elected Dr. Miguel Abadia Méndez to the presidency of the republic. He was installed on August 7. He was the candidate of the Conservative Party and really the only one in the field inasmuch as the Liberal Party refrained from voting. Dr. Méndez was born in 1867 in the department of Tolima, where he received his primary education. In 1888 he graduated as doctor of laws and political science and devoted himself later to the practice of law. In 1895 he was Secretary of Finance, of Public Instruction, and Foreign Relations under the administration of Don Manuel Marraquin. In 1902 he was sent to Chile on a special mission and after that he served as Minister of the Interior in three dif-ferent cabinets. Besides holding these offices he has been a representative in Congress, a Sena-tor, and a professor. He appointed the follow-ing cabinet: Foreign Relations, Dr. Marco Fidel Suárez; Interior, Jorge Vélez; War, Ignacio Réngifo; Treasury, J. A. Gómez Recuero; Public Works, Mariano Pérez; Industries, Salvador Franco; Posts and Telegraphs, Silvino Rodrí-guez; Instruction and Public Health, José Jesús García. This cabinet, however, was in office just about four months when it resigned, chiefly be-cause of lack of faith throughout the country in its ability to carry on the affairs of the gov-ernment. Commercial difficulties due to the severe drought from which Colombia suffered were also contributing factors.

COLORADO. POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 939,629. The estimated population on July 1, 1926, was 1,059,000. The capital is Denver.

AGRICULTURE. The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Wheat (spring)	1926	256,000	8,968,000	4,127,000
	1925	260,000	8,900,000	5,265,000
Potatoes	1926	84,000	11,760,000	15,288,000
	1925	80,000	14,040,000	22,692,000
Corn	1926	1,496,000	10,472,000	7,435,000
	1925	1,467,000	22,005,000	15,404,000
Sugar beets	1926	210,000	2,867,000 *	9,815,000
	1925	180,000	1,640,000 *	3,041,000
Dry beans	1926	862,000	1,086,000	5,736,000
	1925	320,000	2,240,000	3,670,000
Barley	1926	417,000	6,672,000	4,994,000
	1925	410,000	8,810,000	2,059,000
Oats	1926	195,000	4,680,000	2,889,000
	1925	214,000	5,778,000	

\* tons.

MINERAL PRODUCTION. The mining of coal, though on a slightly reduced scale, continued in 1925 to supply about one-half of the total of the State's mineral production, reckoned ac-cording to value. There were produced in 1925 10,310,551 net tons, as against 10,444,098 net tons in 1924; the value of the product in 1925 was \$30,322,000, and in 1924 \$31,863,000. Gold production declined in 1925, the value of the product being for that year \$7,205,000 compared with \$8,593,116 in 1924, and the quantity 348,-542 fine ounces in 1925 and in 1924, 415,692 fine ounces. Silver production rose to 4,830,000 fine ounces in 1925 from 3,254,370 fine ounces in 1924, the total being valued at \$3,022,200 for 1925 and \$2,180,428 for 1924. Copper production remained little changed, attaining 2,500,000 pounds in 1925 as against 2,713,219 pounds in 1924, the total value being \$352,500 for 1925 and \$355,432 for 1924. Lead production rose in quantity to 63,000,000 pounds in 1925, from 47,557,061 pounds in 1924, and in value to \$5,707,-800 in 1925, from \$3,804,565 in 1924. Production of zinc likewise rose, to a quantity of 61,000,-000 pounds in 1925, from 56,727,000 pounds in 1924, the value being \$4,636,000 in 1925 and \$3,687,255 in 1924. The total value of gold, silver, copper, lead and zinc produced in the State was in 1925, \$20,923,500; in 1924, \$18,620,796; an increase of \$2,302,704. Clay products attained in 1924 a value of \$3,954,639; in 1923, of \$4,413,602. Manganese and manganiferous ore, mineral paints, zinc and lead pigments, petroleum, sand and gravel and stone were also produced. The total value of mineral products was, in 1924, \$61,487,882; in 1923, \$61,379,146.

The output of gold, silver, copper, lead, and zinc from Colorado mines in 1926 in terms of recovered and estimated recoverable metal was \$6,911,000 in gold, 4,625,000 ounces of silver, 3,350,000 pounds of copper, 66,000,000 pounds of lead, and 65,000,000 pounds of zinc, according to estimates of the U. S. Bureau of Mines. These figures are to be compared with \$7,227,022 in gold, 4,506,940 ounces of silver, 2,360,500 pounds of copper, 62,966,000 pounds of lead, and 61,621,000 pounds of zinc in 1925, and \$8,593,-116 in gold, 3,254,370 ounces of silver, 2,713,219 pounds of copper, 47,557,061 pounds of lead, and 56,727,000 pounds of zinc in 1924. Compared with the 1925 figures, gold shows a decrease of \$316,-022, silver an increase of 118,080 ounces, copper an increase of 989,500 pounds, lead an increase of 3,034,000 pounds, and zinc an increase of 3,379,000 pounds. At estimated average prices for metals in 1926, the value of the output of these metals was silver \$2,886,000; copper, \$462,-000; lead \$5,478,000; and zinc, \$4,778,000. These values added to that for gold gives a

Crop	Year	Acreage	Prod. bu.	Value
Hay	1926	1,618,000	3,265,000 *	\$27,863,000
	1925	1,605,000	3,086,000 *	86,000,000
Wheat (winter)	1926	1,207,000	14,484,000	15,648,000
	1925	896,000	10,752,000	14,628,000



gross value of output for 1926 of \$20,515,000, as compared with \$20,851,287 in 1925, and with \$18,020,796 for 1924.

In 1926, the total production of gold, silver, lead, copper and zinc, attained a value of \$20,482,081, falling below the previous year's total by \$369,186. Gold production was 334,339 fine ounces, in value \$6,911,405; silver, 4,624,000 fine ounces, in value \$2,885,376; copper, 3,350,000 pounds, in value \$462,300; lead, 66,000,000 pounds, value \$5,478,000; zinc, 65,000,000 pounds, in value \$4,745,000. Quantity increases in silver, lead and zinc production were approximately offset by diminished prices as compared with those obtained in the year previous.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending Nov. 30, 1925 were \$10,708,929, and were at the rate of \$10.52 per capita. They included \$1,002,086 for education, apportioned to minor State divisions. The rate per capita for maintenance and operation of the general departments was \$10.41 in 1924, and \$5.53 in 1917. Expenses totaling \$542,154 for interest on debt, and \$5,393,763 for permanent improvements, added to payments for maintenance and operation of departments, made a total of \$16,644,846. For highways was expended the sum of \$6,385,539, of which \$2,623,880 was for maintenance and \$3,761,659 for construction.

Revenue receipts of the State were \$15,888,116, or \$15.61 per capita. They exceeded by \$4,637,033 the payments except for permanent improvements, but were \$756,730 less than the total with these included. Payments in excess of revenue receipts were met from proceeds of debt obligations. Property and special taxes formed 44.3 per cent of the revenue in 1925, as against 45.9 per cent in 1924 and 56.9 per cent in 1917. Their per capita rate was \$6.91 in 1925, \$7.35 in 1924 and \$3.23 in 1917. Earnings of the general departments and compensation for services rendered by State officials furnished 10.4 per cent of the 1925 revenue; business and non-business licenses furnished 22.4 per cent. License receipts were provided chiefly by the taxes on corporations, on sales of gasoline and on licensing of motor vehicles.

The net indebtedness of the State on Nov. 30, 1925, was \$11,334,771, or \$11.13 per capita, as against \$11.30 per capita in 1924 and \$5.02 in 1917. The assessed valuation of property subject to tax was \$1,540,732,487. The State tax levy was \$5,700,710, or \$5.60 per capita.

**TRANSPORTATION.** The total mileage of railroad line Dec. 31, 1925, was 5077.00. Construction in 1926 added 16 miles of first track. The Colorado and Southern abandoned 30 miles of line between Buena Vista and Hancock; the Denver and Rio Grande Western abandoned 17 miles of line between Moffat and Cottonwood.

**EDUCATION.** The constitution of the State Education Association was altered so as to provide a system of delegate assemblies for control and direction of the affairs of the association.

**CHARITIES AND CORRECTIONS.** Chief of the institutions under State direction are the State Home for Dependent and Neglected Children, Denver; State Home and Training School for Mental Defectives, Ridge and Grand Junction; Industrial School for Girls, Morrison; Industrial

School for Boys, Golden; State Reformatory, Buena Vista; State Penitentiary, Canon City; State Hospital, for the insane, Pueblo; Soldiers' and Sailors' Home, Monte Vista; Industrial Workshop for the Blind, Denver; and a State Psychopathic Hospital.

**POLITICAL AND OTHER EVENTS.** At the election on November 2, W. H. Adams, Democrat, was elected Governor, and C. W. Waterman, Republican, was elected to the United States Senate for the term beginning March 4, 1927. A referendum bearing on the issue of alcoholic prohibition, to the effect that the State legislature be authorized to amend the State prohibition law so as to permit the manufacture, sale and importation of alcoholic beverages so far as might not conflict with Federal statutes was rejected by popular vote. Other officers, elected in 1926, to take office in January, 1927, were: Lieutenant Governor, George M. Cortlett; Secretary of State, Charles M. Armstrong; Treasurer, Harry Mulinix; Auditor, W. D. McGinnis; Attorney General, W. L. Boatright; Superintendent of Public Instruction, Katherine L. Craig. The State Supreme Court was to be constituted as follows: Chief Justice, Haslett P. Burke; Associate Justices, John Campbell, John H. Denison, Greeley W. Whitford, John W. Sheafor, John T. Adams, Charles C. Butler.

There occurred in the summer a vigorous political contest within the State Republican party, between the Ku Klux Klan element, supporting U. S. Senator Means for renomination, and the anti-Klan group, sponsoring C. W. Waterman. This contest resulted in the victory of the Waterman forces in the primary election in mid-September.

The equipment of the Motor Transportation Co., conducting an extensive transportation service, was purchased by the Denver and Rio Grande Western Railroad in June.

According to *Oil and Gas Journal* plans were formed late in November for a 400-mile pipe line to convey natural gas from western Texas fields to Denver and intervening points, with the Standard Oil interests as the owners. Unforeseen difficulties were encountered during the year in the construction of the water bore of the Moffat Tunnel, which according to the attorney for the tunnel board, were likely to increase the cost beyond the original estimate of \$6,720,000. Efforts to lease the western slope water rights in connection with the tunnel project had not come to a successful issue by Dec. 4. It was then announced that the railroad tunnel, the main feature of the project, would be finished about July 20, 1927. Work on the Moffat tunnel project from its start in the fall of 1923 to July 1, 1926, was reported to have made progress as follows: Pioneer bore 15,822 feet in from East Portal; Main bore 13,239 feet in from East Portal; Pioneer bore 12,661 feet in from West Portal; Main bore 8000 feet in from West Portal. The pioneer bore above mentioned was identical with the so-called water bore. It was a tunnel of smaller diameter, serving in the first place to carry workers and material to and from the main bore diggings which it paralleled, and after completion to serve as a water conduit. The work on July 1 was about 80 per cent done, the length of the entire tunnel as projected being 6.08 miles, and was progressing at the rate of about 40 feet a day for the main bore, except where impeded by unusual obstacles. It was ex-

pected that the tunnel when put in operation would enable the Denver and Salt Lake rail route to maintain communication throughout the winter with western Colorado, hitherto accessible during the severe part of winter only by round-about routes. It was also anticipated that the tunnel would supply more effectual means of access to agricultural territory west of the Divide, to coal in the Uintah and Green river basins and to an oil shale area in northwestern Colorado.

The fiftieth anniversary of the formation of the State was observed at Denver, August 1. Vice-President Dawes as the chief guest delivered an address, and President Coolidge addressed the State by radio.

**OFFICERS.** Governor, C. J. Morley; Lieutenant-Governor, S. B. Lacy; Secretary of State, C. S. Milliken; Treasurer, W. D. McGinnis; Auditor, Charles Davis; Attorney General, W. L. Boatright; Superintendent of Public Instruction, Mary C. C. Bradford.

**JUDICIARY.** Supreme Court: Chief Justice, James H. Teller; Associate Justices John Campbell, George W. Allen, Haslett P. Burke, John H. Denison, Greeley W. Whitford, and John W. Sheafor.

**COLORADO, FIFTEENTH ANNIVERSARY OF.** See CELEBRATIONS.

**COLORADO, UNIVERSITY OF.** A co-educational State institution of higher education at Boulder, Col.; founded in 1876. The number of students enrolled for the fall term of 1926 was 2767, and the summer quarter had a registration of 3226. There were 244 faculty members, exclusive of assistants. The total income for general maintenance, from State, fees, tuition, etc., was estimated at approximately \$1,100,000, approximately \$400,000 was received, including fees, for operation of hospitals, and for new buildings \$180,000. During the year an addition to the chemistry building was completed at a cost of \$250,000. In the library there were 173,152 volumes, 17,000 pamphlets, and 2410 maps. President, George Norlin, Ph.D., LL.D.

**COLORATION.** See ZOOLOGY.

**COLORÉD METHODISTS.** See METHODISTS, COLORED.

**COLUMBIA UNIVERSITY.** A non-sectarian institution of higher education; founded in 1754. At Morningside Heights, Broadway and 116th St., New York City, are located: Columbia College (for undergraduate men); the professional schools of law, mines, engineering, chemistry, and architecture; the non-professional graduate faculties of political science, philosophy, and pure science; Barnard College (for undergraduate women); Teachers College, including the departments of education and practical arts; School of Journalism; School of Business; School of Library Service; and the University library. The College of Physicians and Surgeons is on West 59th Street, the College of Pharmacy on West 68th Street, and the School of Dental and Oral Surgery on East 35th Street. In addition to the regular session, there is a thorough system of extension teaching, and a summer session at Morningside Heights, as well as a summer camp for engineering students at Morris, Conn.

The enrollment on Nov. 1, 1926 was 24,005, including 3700 in extramural and special courses in University Extension and 4462 registered for Home Study Courses and 2564 duplicates. The resident students were distributed as follows:

Undergraduates, 2938, of whom 1858 were in Columbia College, 1029 in Barnard College, and 51 in other schools; graduate and professional students, as follows: Graduate faculties 2199, law 730, medicine 408, mines, engineering, and chemistry 173, architecture 91, journalism 130, business 338, dental and oral surgery 272, Teachers college 4191, pharmacy 865, optometry 57, library service 105, unclassified 137; university extension 7204. There were 13,219 registered for the summer session of 1926. The faculty and officers of administration numbered 1785, of whom all except 33 were in active service. This number was distributed as follows: 202 professors; 120 associate professors; 187 assistant professors; 100 associates; 296 instructors; 69 lecturers; 143 assistants; and 3 curators; 191 instructors in Teachers College; 15 instructors in the College of Pharmacy; 306 instructors in extension and home study not included above; 60 officers of administration.

Among the appointments of the year 1925-26 were: Prof. John Maurice Clark from the University of Chicago in Economics, Prof. Louis Herbert Gray from the University of Nebraska in Oriental Languages, Prof. Joseph F. Hudnut from the University of Virginia in the History of Architecture, Prof. Alexander M. Kidd from the University of California in Law, Dr. Benjamin P. Watson from the University of Edinburgh in Obstetrics and Gynecology and to be Director of the Sloane Hospital for Women, and Dr. Charles C. Williamson, formerly of the New York Public Library, to be Director of the University Libraries and of the School of Library Service.

Important events of the year 1925-26 included the appointment by the trustees of a committee of seven to study questions relating to the protection of the site of the University and its future development. Plans were also drawn up to provide additional funds. The endowments and control of Sloane Hospital for Women and the Vanderbilt Clinic were transferred from the University to the Presbyterian Hospital. A DeWitt Clinton Professorship in History was established. Columbia College, co-operating with the Union Theological Seminary, established a combined undergraduate and professional course for future students of theology, and a similar course was established for future law students. The courses in optometry were changed to lead to the degree of B.S. A new school of Library Service was established, absorbing and combining with the New York State Library School and the Library School of the New York Public Library. A School of Tropical Medicine was organized at San Juan, Porto Rico, in co-operation with the University of Porto Rico, under the educational direction of the teaching and research staff of Columbia University. Two apartment buildings were purchased by Teachers College, to be used as residence halls. The physics laboratories on the campus were completed, and the Chandler chemistry laboratories, in the Harris Memorial Building, were equipped. John Jay Hall, a residence hall and social centre for Columbia College, was under construction.

During 1925-26 the University received 201 gifts in money representing a total of \$4,007,014.97. The largest items in the list of gifts were: \$1,000,000 from the General Education Board for the new Medical School buildings;

\$700,000 from the estate of Joseph R. DeLamar for the DeLamar Fund; \$267,796.77 from the Carnegie Corporation for the new Medical School buildings; \$262,993.25 from the Estate of F. Augustus Schermerhorn; \$125,000 from an anonymous donor for the Medical School; \$101,105.41 from the estate of Jonas M. Libbey, for the Libbey Fund; \$90,000 from the estate of Robert B. Van Cortlandt for the Van Cortlandt Fund; \$68,000 from the General Education Board for the maintenance of the Department of Practice of Medicine; \$50,000 from Mrs. James P. Donahue for the School of Dental and Oral Surgery; \$35,000 from the Laura Spelman Rockefeller Memorial for research in the social sciences. An Italian House was given by a group of citizens of Italian descent. In addition to the above amount given to the University proper, Barnard College received \$30,233.75, Teachers College \$1,236,513.90, and the College of Pharmacy \$3,014.49.

The total endowment amounted to \$59,409,049.93. The estimated value on July 1, 1925, of University property was \$35,706,125.16. The budget for 1926-27, including not only Columbia University but the affiliated Barnard College, Teachers College, and the College of Pharmacy, was \$11,214,158.10. President, Nicholas Murray Butler, Ph.D., LL.D.

**COLVER, WILLIAM BYRON.** American newspaper man and at one time head of the Federal Trade Commission, died May 28. He was born at Wellington, Ohio, Sept. 26, 1870, and after studying law at Ohio State University, 1891-92 was admitted to the Ohio bar, and practiced in Cleveland and Sandusky until 1894, when he became telegraph editor of the *Cleveland Plain Dealer*. After serving in various newspaper capacities, both as editor and correspondent, he became tax inquisitor, Cuyahoga County (Cleveland) in 1905, and in the following year was Secretary of the Municipal Traction Company of Cleveland. In 1907, he again entered journalistic activity as president and general manager of the Newspaper Enterprise Association, and in 1912, became editor in chief of the "Clover Leaf" Publications in St. Paul, Minn. Mar. 15, 1917, he was made a member of the Federal Trade Commission, and from June 8, 1918, to July 1, 1919, he served as its chairman. He was a member of the price-fixing committee of the War Industries Board, 1918-19, and organized the pulp and paper section of that body in 1918. He retired from the Federal Trade Commission Sept. 25, 1920, and was general editorial manager of the Scripps-Howard newspapers, and president and general manager of the Newspaper Enterprise Association, and general manager of the Newspaper Information Service, Inc. He was also treasurer of the Atlantic Shores Corp. at Miami, Florida.

**COMETS.** See ASTRONOMY.

**COMMERCE.** See UNITED STATES and articles on foreign countries.

**COMMISSION-MANAGER.** See MUNICIPAL GOVERNMENT.

**COMMUNITY PLANNING.** See ARCHITECTURE.

**COMORO ISLANDS.** See MAYOTTE AND THE COMORO ISLANDS.

**CONCERTS.** See MUSIC.

**CONGO, BELGIAN.** A Belgian colony in Central Africa, formerly the Congo Free State, which was annexed to Belgium in 1908. The

boundaries were defined by declarations of August, 1885, and December, 1894, and by treaties with Germany, France, Great Britain, and Portugal. Area, estimated at 909,654 square miles; the native population is placed at 8,500,000 (Bantu). On Jan. 1, 1925, the white population numbered 12,795, of whom 7770 were Belgians. The chief city and former capital is Boma; by a royal decree of 1923, the capital was transferred to Kinshasa, which was renamed Leopoldville. Other important towns are Elizabethville, Stanleyville, and Kookilhatville. Catholic and Protestant bodies carry on missionary work, the number of Catholic missionaries being 888 and of Protestants, 518. In cooperation with the government they supply means of education, and there are several educational institutions under direct government control, at the more important towns. In 1925 the government grant for education to the missionaries amounted to 2,417,000 francs, while the total expenditure on education was 2,432,700 francs.

**COMMERCE, FINANCE, ETC.** The total imports in special trade in 1924 were £21,640,000 and the exports, £19,080,000. The chief imports were cotton goods, provisions, machinery, wines and spirits, steamers and ships, and arms and ammunition; the principal exports, palmnuts, copper, copal, palm oil, rubber, and ivory. In 1925 the revenues were estimated at 146,555,000 and the expenditure, 137,086,745 francs. The public debt on Dec. 31, 1923, was 543,410,235 francs. Expenditures, as a rule, regularly exceed revenues, with the result that loans frequently have to be resorted to, in order to balance the budget.

Steamers, belonging to the state, ply on the Congo in the navigable section from its mouth to Matadi, a distance of 95 miles, and government and private companies supply a transport service on the upper Congo and its tributaries. There are over 1000 miles of navigable water between Stanley Pool and Stanley Falls, and above Stanley Falls there is another navigable section of about 585 miles. The tributaries of the Congo are also navigable for part of their courses. The railway mileage on Jan. 1, 1924, was placed at 1268 miles, and the road mileage, partly suited to motor traffic, was placed at 7125 miles. Two sections of the Cape-to-Cairo railroad run through Belgian Congo, the distance from Elizabethville to Capetown on that road being 2300 miles. Although improvements involving the alignment of track and reduction of grades have increased the carrying capacity of the railroad between the ports of Matadi and Stanley Pool by 120,000 tons a year in each direction, hauling to and from the interior of the Belgian Congo still continues to be greatly restricted. The increase is insufficient for the volume of freight, both import and export, offered to the railway. A proposal has been made to construct seven locks in the cataract section of the Congo, thereby enabling ocean steamers to proceed to unload at Stanley Pool instead of Matadi, and eventually to abandon the railway. The proposal is based on the assumption that the railroad from Matadi to Stanley Pool will never be able to meet the traffic demand because of adverse operating conditions. During the year progress was being made in the construction of a 625-mile railway from Bukama to Ilebo, but was restricted at Ilebo, because of the difficulty of securing materials from Matadi. The line,

which will probably be completed in 1928, will enable passengers to travel from Capetown to the lower Kasai district, without changing. A final survey has been completed for a railway to be constructed from Stanleyville, to the Kilo-Moto gold districts.

The Governor General at the beginning of 1926 was M. Rutten.

**CONGO FREE STATE.** See CONGO, BELGIAN.  
**CONGO, FRENCH.** See FRENCH EQUATORIAL AFRICA.

**CONGREGATIONALISM.** A religious denomination founded in the United States by the Pilgrims in Plymouth, Mass., in 1620, under the leadership of Brewster, Bradford, and Winslow. The origin of this movement lay in the Separatist activity in England. The Puritans of Massachusetts Bay followed a similar tendency, and as a result the essential elements of Separatism and Puritanism were combined into Congregationalism. In this denomination each church holds the right to frame its own statement of belief and the policy of the denomination as a whole represents adaptation to conditions rather than accord with a theory of church government. The National Council, by which the administrative affairs of the church are carried on, has no ecclesiastical authority, but includes ministerial and lay delegates elected by the State Conferences. The National Council meets biennially, the session in 1925 being held in May at Washington, D. C.

Statistics of the denomination for Jan. 1, 1926, showed 5636 churches, 5510 ministers, and a church membership of 901,660. The Sunday school enrollment was 797,987; there were 2996 young people's societies, with a membership of 121,910. The total raised for all benevolences was \$4,713,831, and the home expenses of the church were \$20,772,218. Contributions to the Pilgrim Fund, a ministers' pension system, were \$4,850,426. The National Benevolence Societies of the denomination are: American Board of Commissioners for Foreign Missions, Woman's Boards of Foreign Missions, American Missionary Association, Congregational Church Building Society, Congregational Education Society, Congregational Sunday School Extension Society, Congregational Foundation for Education, Congregational Board of Ministerial Relief, and Congregational Woman's Home Missionary Federation.

The American Board of Commissioners for Foreign Missions is the oldest foreign missionary society in America, having been organized June 29, 1810. In 1926 it conducted 17 missions in 15 countries; the stations connected with these missions numbered 108, and the out-stations 1735. The missionaries holding life appointments were 696, and included 172 ordained men, 71 unordained, 224 wives, and 231 single women; in addition there were 113 associates who serve for shorter periods, making a total of 809 missionaries. Religious services were carried on in 2588 places, where there were 557 organized churches, with 93,159 communicants. The total constituency, including church members and all influenced by missions, numbered 268,237; there were 1342 Sunday schools and 76,144 pupils. In the educational field the Board had 33 theological and training schools, with 1754 pupils, and 9 colleges, with 2748 students, as well as many secondary and elementary schools. In schools of all types there were 95,228 pupils. There were 35

hospitals and 44 dispensaries. Expenditures of the Board for the year ending Aug. 31, 1925, were \$2,396,920.73. During the year the Woman's Board of Missions, the Woman's Board of the Interior, and the Woman's Board of Missions for the Pacific were merged with the American Board.

The field of the American Missionary Association extends from the Atlantic Coast to the Hawaiian Islands and Porto Rico. It includes: In the South and the Southwest the Negroes, the Highlanders, and Spanish-speaking people; in the West the Indians; throughout the country the Orientals. The statistics of the Association for 1925-26 showed 380 churches; 17,036 members; 32 schools, with 7715 pupils. The expenditures during the same period amounted to \$1,066,537.

The Home Missionary Society carried on its work in 1925-26 in 42 States, with 1478 missionaries under commission for the whole or part of the year. The chief foreign work was carried on among the German people, 68 churches and missions using that language in their service. During the year 36 new churches were organized and 36 new church buildings erected. Receipts of the society for the year totaled \$442,098.88. The total receipts of the Church Building Society in 1925-26 were \$694,408.66. The contributions for church buildings amounted to \$178,826.30; repaid grants and sales of abandoned churches were \$144,876.79; and income from other sources \$155,407.27. The Board voted 229 church grants and loans and paid \$559,648.98 on 127 new churches and 26 parsonages.

The denomination conducts 10 theological seminaries, the more important being: Union Theological College, Chicago; Yale Divinity School; Hartford School of Religious Pedagogy; and the Theological School at Harvard University. In addition there are 41 colleges, some of which are undenominational, but have historical relation to Congregationalism.

The headquarters of the National Council are at 287 Fourth Avenue, New York City. In 1925-27, Mr. F. J. Harwood of Appleton, Wis., was moderator of the Council; Rev. D. F. Bradley of Cleveland was associate moderator; Mrs. E. A. Osbornson, Chicago, and Rev. W. S. Cash of New Orleans, were assistant moderators; Rev. Charles E. Burton, New York, was secretary; and Franklin H. Warner, New York, was treasurer. The Publishing Society of the Church maintains branches at 14 Beacon Street, Boston, and 19 South La Salle Street, Chicago. The table below is a reprint from the *Congregational Year Book* for 1925 and shows statistics of international Congregationalism:

Countries	Churches Chapels and Stations	Members of Churches	Members of Sunday Schools
• Africa .....	1,444	45,582	24,372
Australia and New Zealand .....	489	21,335	38,151
• Balkans .....	60	2,108	2,929
British Guiana .....	47	3,941	3,447
Canada .....	165	12,636	11,885
• China .....	997	34,478	16,821
• Czechoslovakia .....	150	3,319	2,600
England and Wales .....	4,700	438,080	411,193
• India and Ceylon ...	1,582	40,987	54,320
Ireland .....	60	2,180	3,600
• Jamaica .....	33	2,867	3,609
• Japan .....	263	24,237	19,287
• Madagascar .....	700	36,164	37,537

Countries	Churches Chapels and Stations	Members of Churches	Members of Sunday Schools
* Mexico .....	26	819	1,173
Newfoundland .....	4	225	330
* Papua .....	25	4,516	6,771
* Philippines .....	44	1,940	2,020
Scotland .....	168	37,270	20,614
* South Seas .....	341	20,463	19,103
* Spain .....	10	292	516
* Turkey and Syria .....	61	2,237	4,138
United States .....	5,636	901,640	797,987
Total .....	17,005	1,637,331	1,476,903

\* Includes reports of London Missionary Society and American Board

**CONGREGATIONAL METHODISTS.** See METHODISTS, CONGREGATIONAL.

**CONGRESS.** See UNITED STATES.

**CONNECTICUT.** POPULATION. According to the Fourteenth Census the population of the State on Jan. 1, 1920, was 1,380,631. The estimated population on July 1, 1926, was 1,606,000. The capital is Hartford.

AGRICULTURE. The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu	Value
Hay	1926	374,000	435,000 <sup>a</sup>	\$11,062,000
	1925	368,000	471,000 <sup>a</sup>	11,444,000
Tobacco	1926	21,900	29,346,000 <sup>b</sup>	10,858,000
	1925	29,600	40,019,000 <sup>b</sup>	7,604,000
Potatoes	1926	11,000	2,170,000	3,906,000
	1925	15,000	2,025,000	5,062,000
Corn	1926	51,000	2,700,000	3,105,000
	1925	54,000	2,700,000	2,970,000
Apples	1926		1,900,000	1,900,000
	1925		1,375,000	2,269,000

<sup>a</sup> tons, <sup>b</sup> pounds

MINERAL PRODUCTION. The State as a producer of minerals figures chiefly in its output of clay products, stone, sand and gravel and lime, named in the order of the value of the totals produced in 1924. Total mineral production attained in 1924 a value of \$8,129,332; in 1923, of \$7,177,266. Clay products in 1924 were valued at \$3,469,921, exclusive of pottery; in 1923, at \$3,665,174. The quantity of stone produced was, in 1924, 1,849,670 short tons; in 1923, 1,482,710 short tons; the product in 1924 was valued at \$2,251,566, and in 1923 at \$1,830,413. Sand and gravel production was, in 1924, 1,191,421 short tons, showing a notable increase over the production of 1923, 691,439 short tons; the product was valued in 1924 at \$1,175,757, and in 1923 at \$303,433. Of lime were produced in 1924 58,851 short tons; in 1923, 59,158 short tons; in value, \$796,541 in 1924 and \$813,254 in 1923. Lime sold by producers in 1925 was estimated at 63,000 short tons, with a value of \$762,000.

FINANCE. As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925 were \$21,275,926. Their rate per capita was \$14.02, as against \$11.38 in 1924, and \$7.13 in 1917. Their total included \$1,337,974 for education apportioned to minor State divisions. Expenses totaling \$18,718 for public service enterprises, \$656,865 for interest on debt and \$4,783,316 for permanent improvements, added to payments for maintenance and operation of departments, made the total of State payments \$20,734,825. For highways was expended the sum

of \$10,536,133, of which \$7,440,583 was for maintenance and \$3,095,550 for construction.

Revenue receipts of the State were \$20,295,037, or \$19.30 per capita. They exceeded by \$7,343,528 the total payments except those for permanent improvements, and furthermore, exceeded by \$2,560,212 the total with these included. The excess of revenue was reflected in purchase of investments and in cash balances. Property and special taxes formed 26.6 per cent of the revenue in 1925, as against 25.2 per cent in 1924 and 38.4 per cent in 1917. Their per capita rate was \$5.13 in 1925, \$4.31 in 1924 and \$4.82 in 1917. Earnings of the general departments and compensation for services rendered by State officers furnished 11.5 per cent of the 1925 revenue. Business and non-business licenses furnished 50.8 per cent. License receipts were provided chiefly by the taxes on incorporated companies, on the sale of gasoline and on the licensing of automobiles.

The net indebtedness of the State on June 30, 1925, was \$4,134,652, or \$2.27 per capita, as against \$3.11 in 1924 and \$6.56 in 1917. The assessed valuation of property subject to tax was \$2,258,265,601. The State tax levy was \$1,762,709, or \$1.16 per capita.

TRANSPORTATION. The total mileage of railroad line under operation Dec. 31, 1925 was 908.57. There was no new construction of moment in 1926.

EDUCATION. As presented in the *Journal of the National Educational Association*, the advances in educational activity effected during the year included the formation of a plan of coöperation between the State Board of Education and Yale University. Under this plan the State educational division of rural education will provide opportunities in schools for field service for selected students in the University Graduate School who are studying the subject of supervision at the University. The State Board of Education inaugurated radio programmes to promote music appreciation. These programmes, broadcast in conjunction with radio broadcasting station WTIC, were devised to appeal to primary, upper and high school pupils. A descriptive sheet was sent to teachers, in order to enable them to prepare their classes to hear the concerts with the necessary understanding.

The school population in September, 1925, was 370,155 and the total enrollment for 1925-26 was 297,237, of which 259,297 were in common schools and 37,940 in high schools. The current expenses totaled \$23,108,482.03 and the capital outlay \$9,241,532.73, making a total expenditure for education of \$32,350,014.75. The average salary of teachers was \$1607. The items of expenditure above do not include the appropriation made to the State Board of Education for operating expenses and for normal schools and trade schools.

CHARITIES AND CORRECTIONS. Beneficiaries under the State widows' aid law numbered, on June 30, 705 widows and 2103 children. In the year to that date 215 new applications had been received for aid under this law, and 162 applications had been approved. Aid provided in the year totaled \$408,567 and averaged \$11.12 a week to the family. Applications for pauper State aid in the year ending June 30 numbered 1472 and covered 1860 individuals. This form of aid is extended to needy persons within the State

who have no legal residence within any town; the town otherwise being responsible for their successor. Towns were reimbursed to the amount of \$57,520 for aid that they had advanced to persons for whom they were not responsible. The following State institutions had the numbers of inmates named: Connecticut State Hospital, 2825; Norwich State Hospital, 2035; Mansfield School and Hospital, 605; Tuberculosis Sanatorium, 737.

**POLITICAL AND OTHER EVENTS.** At the general election of November 2 Governor John H. Trumbull, Republican candidate, was reelected governor. He obtained a plurality of about 81,000 votes over his Democratic opponent, Charles G. Morris. Senator Hiram Bingham, Republican, was reelected to the United States Senate for the term beginning March 4, 1927, receiving about 80,000 more votes than the Democratic candidate, Rollin U. Tyler. All five of the U. S. Representatives from the State were reelected to the 70th Congress; all were Republicans.

There convened at Hartford on November 15 a conference of delegates from the six New England States, for the purpose of furthering the economic welfare of the region as a whole. It dealt with a wide range of problems, which included marketing, manufacturing, legislation and transportation. Particular attention was given the problem of providing the New England area with cheaper and more abundant power. Owen D. Young, chairman of the directors of the General Electric Company, addressed the conference to advocate measures needed for a more complete union of the hydroelectric resources of New England into a superpower system. Steps were taken by the State in April to cooperate with the County of Westchester in New York for the extension of the Hutchinson River Parkway. A policy of widening existing highways where most necessary to make them adequate to increasing traffic needs was outlined by State authorities.

The State Democratic convention, September 16, declared for the repeal of the Eighteenth amendment to the U. S. Constitution. Gerald Chapman, a robber, was hanged at Hartford April 5, on conviction in a State court of having murdered a New Britain policeman. He had been a Federal prisoner at Atlanta prior to his removal to Connecticut to be tried there. His counsel protested against the legality of his removal from Federal imprisonment. President Coolidge in 1925 sought to simplify the legal difficulties by commuting the Federal sentence, but Chapman refused to accept the release from Federal custody which meant for him a prospect of early execution. He sued for a writ of habeas corpus in the Federal courts, carrying appeal successively up to the U. S. Supreme Court which refused March 15 to review the case, and left him in the hands of the State. The contention on his behalf was that the release from Federal prison was not in effect an act of clemency and was therefore *ultra vires*.

**OFFICERS.** Governor, John H. Trumbull; Secretary of State, F. A. Pallotti; Treasurer, E. E. Rogers; Comptroller, F. M. Salmon; Attorney-General, Benjamin W. Alling.

**JUDICIARY.** G. W. Wheeler, Chief Justice; John K. Beach, H. J. Curtis, W. M. Maltbie, John E. Keeler, F. D. Haines, G. E. Hinman, Associate Judges.

**CONSTITUTION OF THE UNITED STATES. See CELEBRATIONS.**

**COOLIDGE TUBES. See PHYSICS.**

**COOLIDGE, WILLIAM AUGUSTUS BREVOORT.** American clergyman and Alpinist, died at Grindelwald, Switzerland, in May. He was born in New York City, Aug. 28, 1850, and was educated at St. Paul's School at Concord, N. H., and at Oxford, where he took numerous honors in history and jurisprudence, receiving the degree of B.A. in 1874; M.A. 1876; and honorary Ph.D. from the University of Bern in 1908. He was ordained deacon in 1882 and priest in 1883, after serving as Professor of English History at St. David's College, Lampeter, 1880-81, and at Magdalen College, Oxford, 1881-85. He was interested in climbing in Switzerland from an early age, and was a member of all the leading Alpine clubs and societies. In 1909, he settled permanently in Switzerland, making his headquarters at Grindelwald, where he housed an extensive library of Alpine literature. He was credited with the ascent of some 1200 peaks and passes, many of which were first ascents, and he visited every district of the Swiss, French, and Italian Alps.

Dr. Coolidge published many papers and from 1880-89 was editor of the *Alpine Journal*. His published works include: *Climbers' Guide to the Bernese Oberland*, (new edition of vol. i, 2 parts, (1909-10), and (vol. ii, (1904); *Josias Simler et les Origines de l'Alpinisme jusqu'en 1600* (1904); *The Alps in Nature and History* (1908); *Die Petronella-Kapelle in Grindelwald* (1911); *A List of My Writings* (1868-1912) *Relating to the Alps of Switzerland* (1912); *Alpine Studies* (1912); *Die älteste Schutzhütte im Berner Oberland* (1915); and *Johann Madutz* (1917). He was editor of: *Alpine Journal* (1880-89); the late Aubrey Moore's lectures and papers on the *History of the Reformation* (1890); Murray's *Handbook for Switzerland* (eighth edition) (1891), and (nineteenth edition) (1904); and of *A Pioneer in the High Alps*, (Alpine Diaries and Letters of F. F. Tuckett, 1865-1894) (1920).

**COÖPERATION. AGRICULTURE.** In the 1925 YEAR BOOK there was given a detailed statistical summary of the growth of the coöperative movement in American agriculture. The movement showed few signs of diminishing and its growth was being spurred on by the low price of agricultural commodities in an era of general prosperity. The Secretary of Agriculture, William M. Jardine, in a speech in June, 1926, before the American Institute of Coöperation saw in co-operative marketing the best solution of the farmers' troubles. He declared that already an aggregate business of \$2,500,000,000 was handled by the coöperative marketing associations in 1925. See **HORTICULTURE**.

It should be pointed out that the progress of agricultural coöperation has not been altogether without setbacks. At the close of the year the newspapers announced that the Tri-State Tobacco Growers' Association was in the hands of a receiver. The association had taken in some \$98,000,000 worth of business during the four years of its existence, but during the same period its overhead expenses were \$20,000,000. It was this wasteful overhead, coupled with an inadequate knowledge of the marketing situation, which was responsible for the failure of the organization. According to the *Greensboro* (N. C.)

*News*, it would seem that "the people who did not know how to market paid the people who thought they did" an altogether too high financial tribute. The *New York Times* saw in this unfortunate bankruptcy some justification for skepticism with regard to the general movement of agricultural coöperation, despite the "brilliant success" of the California fruit growers. But that is to build too big a moral on a relatively small episode.

Agricultural coöperation was a principal theme of discussion at the fifth congress of the Coöperative League of America which was held at Minneapolis, November 4-6. Analyzing the relation that should exist between the consumers' coöperatives and the coöperative marketing movements, Mr. A. S. Goss, of the Associated Grange Wholesale, suggested that the real solution would be for the consumers to own and to operate the farms. This, however, was a long way off. Meanwhile, he pointed out, the farmer is learning the value of marketing coöperation as a means of getting better prices for his goods, and he is at the same time learning the value of consumer coöperation by joining the stores for the purchase of farm implements and household goods. Mr. George Keen, secretary of the Coöperative Union of Canada, stressed the fact that though there was a fundamental difference in the immediate aims of farmers' and consumers' societies, there was a great need of coordinating the efforts of the two. A statement of this need of coördination was embodied in one of the resolutions adopted by the convention.

GENERAL. Indications as to the state of the American coöperative movement in general fields are furnished by the reports and discussions of the coöperative convention referred to above, and by the statistical compilation of the Bureau of Labor Statistics showing the resources of the movement at the close of 1925. The convention was attended by 65 delegates representing 132 societies, as well as by delegates from the Coöperative Union of Canada, the Manitoba Wheat Growers, the Farmers' Union of Iowa, and the Washington State Grange. The report for the year showed that there were altogether 152 constituent societies within the league, of which 104 were organized for the purposes of education and propaganda into four district leagues. The national body itself was purely an educational and informational body, performing such functions as providing speakers, furnishing an auditing service to the constituent members, acting as an employment bureau, etc. Besides the topic of agricultural coöperation, the conventions discussed the relation of consumers' coöperation (1) to the labor movement in general, (2) to coöperative insurance, and (3) to coöperative credit unions.

The convention (according to the report published in the *Monthly Labor Review*) passed resolutions recognizing the coöperative movement as a working class movement, which therefore should seek the coöperation of all workers' and farmers' movements, and urging upon the constituent societies the use of union-label goods and the employment of union workmen as far as possible. Another resolution protested against the use of injunctions in labor disputes. In the matter of coöperative insurance a resolution recorded the appointment of a committee to study existing coöperative insurance societies in this country and abroad with a view

to undertaking the formation of an insurance society.

The accompanying table gives the membership of American coöperative societies and of American credit unions, according to the Bureau of Labor Statistics. It should be borne in mind that not all the consumers' coöperatives are affiliated with the Coöperative League of America, and that the coöperatives listed do not include housing societies. Figures as to wholesale coöperatives are lacking, but it was brought out in the discussions of the coöperative convention that most of these societies had died out in the last few years. As many as 18 were affiliated with the league in 1919.

State	Consumers' societies		Credit societies	
	Member-ship	Business	Member-ship	Loans granted
	No.	Dollars	No.	Dollars
Alabama . . .	150	72,000	...	...
Alaska . . . .	309	223,037	...	...
Arkansas . . .	235	121,090	390	19,314
California . . .	9,044	699,604	117	4,520
Colorado . . .	160	75,502	...	...
Connecticut . .	3,176	473,401	...	...
Florida . . . .	...	...	215	24,805
Georgia . . . .	...	...	214	2,381
Idaho . . . . .	274	207,934	...	...
Illinois . . . .	9,559	2,883,864	...	...
Indiana . . . .	643	305,549	841	29,085
Iowa . . . . .	3,051	1,245,849	47	450
Kansas . . . .	5,245	2,021,266	61	5,947
Kentucky . . .	461	116,345	480	33,748
Louisiana . . .	...	...	265	6,320
Maine . . . . .	1,204	507,324	...	...
Maryland . . .	...	...	173	3,586
Massachusetts .	21,676	3,710,376	45,672	5,931,418
Michigan . . .	8,343	3,244,151	...	...
Minnesota . . .	23,889	11,239,067	395	122
Missouri . . .	458	148,175	...	...
Montana . . .	195	85,155	...	...
Nebraska . . .	3,028	3,488,736	...	...
N. Hampshire .	285	136,556	...	...
New Jersey . .	4,732	1,063,221	1,659	53,691
New York . . .	6,577	1,650,626	47,783	12,986,626
North Carolina .	124	60,900	561	25,193
North Dakota .	1,400	1,169,252	...	...
Ohio . . . . .	2,482	1,730,573	...	...
Oklahoma . . .	727	820,737	240	9,680
Oregon . . . .	3,030	66,942	...	...
Pennsylvania .	1,498	698,620	350	177,672
Rhode Island .	264	146,000	6,510	680,842
South Carolina .	...	...	96	3,845
South Dakota .	1,166	759,198	...	...
Tennessee . . .	46	26,931	269	12,249
Texas . . . . .	857	134,112	41	...
Virginia . . .	215	95,419	608	45,304
Washington . .	3,551	2,547,950	285	7,280
West Virginia .	1,049	449,081	62	658
Wisconsin . . .	8,646	6,784,285	495	35,780
Wyoming . . .	540	181,000	...	...
Total . . . .	128,289	49,389,223	107,779	20,100,356

\* Not reported.

The membership, paid-in share capital, and amount of business done by coöperative societies reporting to the Bureau of Labor Statistics for 1925 was as follows:

	Member-ship	Paid in capital	Amount of business, 1925
	No.	Dollars	Dollars
Workers' productive societies (coöperative workshops) . .	450	1,025,509	4,533,329
Credit societies . . . .	107,799	10,706,099	20,100,356
Consumers societies:			
Store societies . . . .	108,748	5,255,534	40,424,045
Housing societies . . .	1,805	827,850	4,102,600
Other types . . . . .	19,541	1,615,696	8,965,178
Total . . . . .	130,094	7,699,080	53,491,823
Grand total . . . .	238,343	19,430,688	78,125,508

\* Working members only; does not include 2,346 stockholders not employed in coöperative work.

\* Value of property controlled in 1925.



**CREDIT UNIONS.** These tables showing the amount of business done by credit unions should be interpreted in the light of the fact that most of these unions have grown up within the last eight years. Undoubtedly this form of coöperation is the fastest growing at the present time, and its growth is symptomatic of the same tendency as reflected in the labor banking movement. Neither credit unions nor labor banking would have been possible but for the existence of a large class of wage earners with surplus savings and the intelligence to use them to best advantage. The average membership of the credit unions, as reported by the Bureau of Labor Statistics, is 612 per society. The average loan per borrower is \$381 per member. A large number of unsecured loans are made, with remarkably little loss. The interest rate is never higher than 8 per cent, and in most cases less.

**FOREIGN COUNTRIES.** Significant items of news on coöperation in foreign countries are given here. They have been compiled from the *Monthly Labor Review* and the *International Coöperative Bulletin*.

**Czecho-Slovakia.** A state publication of 1926 lists the credit and non-credit societies of Czecho-Slovakia as of Dec. 31, 1924, as follows:

Credit societies .....	6,151
Other types:	
Agricultural societies .....	3,740
Industrial and commercial .....	1,607
Consumers societies:	
Consumers societies proper .....	1,810
Housing societies .....	1,349
Other .....	47
	2,676
Public utility societies .....	68
	14,237

No data as to membership or amount of business were given.

**Denmark.** The amount of business done by the Danish Wholesale Coöperative Society during the year 1925 was 165,340,137 kroner. This was a decrease of about 40,000,000 kroner as compared with the figure for the previous year. The *International Cooperative Bulletin* explains that "this, however, was entirely due to the fall in prices following the great rise in value of the krone on its way to par during the last six months of the financial year." The value of the krone was 24.9c. in December, 1925. Profits also showed a decrease for the year 1925, totaling only 3,699,473 kroner. Nevertheless the Society was able to pay its patronage a dividend of 3 per cent. Manufactures of goods amounted to 47,039,125 kroner, the quantity far exceeding that of any previous year. The affiliated societies, the balance sheet showed, numbered 1804, with a combined membership of 337,500. Reserves totaled 21,402,936 kroner; and depreciation reserves, 9,700,000 kroner. The paid-in share capital amounted to 1,468,400 kroner.

**Italy.** The National League of Coöperative Societies was dissolved by the Italian Fascist government in November, 1925. At the recent convention of the Coöperative League of America an expression of sympathy was voted by the delegates, and it was suggested that an international congress of coöperative societies be convoked to combat international Fascism.

**Russia.** According to data compiled by the Russian Information Bureau, the total member-

ship of coöperatives in the Soviet Union was 25,000,000 (June, 1926). The consumers' coöperative organization embraced, on Jan. 1, 1926, 26,479 societies with 10,163,109 members. The amount of business for the year ending Sept. 30, 1925 was \$2,008,500,000, and for the year ending Sept. 30, 1926 estimates based on ten months indicated a probable turn-over of well over \$3,000,000,000.

In view of the predominantly agricultural population of Russia, agricultural coöperation plays a highly important rôle, the government encouraging these organizations as much as it can. Statistics printed in the *Russian Review* (October, 1926) show that agricultural coöperation has made tremendous strides in the last few years. On Jan. 1, 1926, there were in existence 31,000 federated agricultural coöperatives, and some 20,000 independent societies. The membership embraced 6,500,000 peasant farms, or 28 per cent of all the peasant farms in the Soviet Union. The coöperatives are handicapped by an inadequate capital, their share capital amounting to \$11,000,000. With this capital, and with the aid of government loans, the societies succeeded in carrying on a business with a turn-over estimated at \$600,000,000 for the fiscal year 1926.

**Sweden.** In Sweden at the end of the year 1925, 902 coöperative societies were in existence, according to the *International Cooperative Bulletin*. The total business was 259,700,000 kronor (Swedish currency was approximately at par, 26.9 cents). Of this about 36.5 per cent was of goods purchased from the wholesale societies. The share capital of the societies was 39,536,052 kronor, or 68.90 per member. There was a surplus of 11,099,448 kronor at the end of the year's business. See also CHINA.

**COÖPERATION.** See AGRICULTURE; AGRICULTURE, UNITED STATES DEPARTMENT OF; CHINA.

**COPPER.** In 1926 the United States continued to be the leading copper producer of the world, accounting for 54 per cent of the total output, as compared with 15.2 per cent for Chile and Peru, 6.8 per cent for Africa, and 24 per cent for all other countries. The industry by January, 1926, had returned to the pre-war level, and continued through the year on this basis; though both costs and prices were on a lower scale than previously. In North and South America there apparently was a greater capacity in the existing plants than there was demand for the product, while in Africa the production was handicapped by lack of labor, and notwithstanding anticipations was substantially lower than in 1925. The average copper price for the year was about 137½ cents per pound, as against 14 cents in 1925, 13 cents in 1924, and 14.421 cents in 1923. There was an increased production and consumption of the metal, and in most of the plants increased economies were manifested, so that there was an improvement in cost without wage reductions. The companies controlled by United States capital in North and South America, which produced some 1,050,000 tons of copper, were paying interest and dividends to the bond and stockholders, on the basis of 1925 earnings, and it was estimated that such dividends were equivalent to about 3¼ cents per pound produced, while in 1926, allowing for the increased output, the actual rate of distribution was estimated at about 3½ cents per pound, on a total distribution of \$73,000,000. On Oct. 15, 1926 Copper



Exports, Inc., began business to carry on the American export trade, and it was anticipated that it would exert an important effect in stabilizing conditions and handling the export stock of American plants.

The world's output of primary copper in 1926, according to the annual review number of the *Engineering and Mining Journal*, was estimated at 1,658,000 tons, as compared with 1,588,000 tons in 1925, or an increase of 70,000 tons. On Jan. 1, 1926, the stock of rough copper in all forms in North and South America was 240,000 tons, as compared with 276,000 tons on December 31. In the United Kingdom the copper stock on Jan. 1, 1926, was 56,500 tons and at the end of the year 30,000 tons, or a decrease of 26,500 tons, which almost exactly offset the increase in the United States. However, the demand for copper in the industries was such that it was estimated that the entire increase in production would be taken care of.

The *Engineering and Mining Journal*, New York, gave the accompanying tables which indicate the more important statistics of the year.

estimated smelter production from domestic ores for December, as reported by the smelters, was 157,000,000 pounds, 13,000,000 pounds more than the average for the 11 months which preceded it. The estimated production for December, 1925, was 137,000,000 pounds, which was below the monthly average for that year. Both smelter and refinery production showed small increases over previous peace-time records, and while stocks of refined copper increased, stocks of blister copper decreased sufficiently so that there was little change in total stocks.

Aside from production the outstanding features of the copper industry in 1926 were record-breaking imports and domestic consumption. The European countries did not make the demands on the market that had been anticipated and, instead of increasing, exports to Europe decreased largely in 1926. Exports to France, however, showed a notable increase.

The production of new refined copper from domestic sources, determined in the same manner as smelter production, was about 1,738,000,000 pounds, compared with 1,683,000,000 pounds

### COPPER PRODUCTION OF IMPORTANT COUNTRIES

*Based on blister, referred to country of origin*

*From data compiled by the American Bureau of Metal Statistics  
Tons of 2,000 lb.*

Country	1916 <sup>a</sup>	1922	1923	1924	1925	1926 <sup>b</sup>
United States	971,123	511,970	754,000	819,000	854,000	984,000
Mexico	60,751	29,842	60,538	57,139	59,123	42,600
Canada	52,880	25,300	40,230	50,072	56,239	33,700
Cuba	8,613	11,788	11,963	12,742	13,128	.....
Bolivia	5,675	10,154	11,744	8,200	7,500	.....
Chile	78,559	142,830	201,042	208,964	209,654	256,000
Peru	47,452	40,133	48,684	38,798	41,180	.....
Venezuela	1,300	1,075	1,175	1,230	1,500	.....
Europe	105,484	86,950	115,492	120,618	130,957	104,000
Asia	110,900	60,825	66,227	71,800	77,013	77,000
Australasia	43,920	13,754	19,995	15,711	13,800	10,500
Africa	43,876	58,219	80,410	115,300	118,180	90,000
Other countries	8,307	3,307	3,307	4,409	4,409	52,200
World's total	1,533,810	996,147	1,414,807	1,523,483	1,586,683	1,650,000

<sup>a</sup> War peak of production in United States was in 1916. War peak of world production was in 1917, the total being 1,580,475 tons.

<sup>b</sup> 1926 figures, partly estimated; figures for individual countries not comparable with figures for other years, as blister copper is not segregated according to countries of origin.

### PRIMARY COPPER PRODUCTION BY UNITED STATES MINES, AND FOREIGN SUPPLY TO UNITED STATES SMELTERS

*[American Bureau of Metal Statistics, in tons of 2,000 Pounds]*

	1924	1925	1926
Porphyry mines	315,351	320,151	345,838
Lake mines	68,828	78,013	87,116
Vein mines	369,347	400,199	395,260
Custom ores	39,668	43,754	44,104
Total crude production	793,194	842,117	872,318
Imports in ore, matte, etc.	76,139	81,665	74,000
Blister produced from scrap	4,621	12,567	19,961

Total supply	873,954	936,349	966,279
Smelter production	898,464	947,333	984,135

<sup>a</sup> Imports for December estimated.

The smelter production of copper from domestic ores in 1926 in the United States as determined by the Bureau of Mines, from reports of the smelters showing actual production for 11 months and estimated production for December, was 1,742,000,000 pounds, compared with 1,675,000,000 pounds in 1925. The 1926 production was the largest peace-time output, being approximately 4 per cent higher than that of 1925, which was heretofore the highest recorded with the exception of the war years, 1916, 1917, and 1918. The

in 1925. In 1926 the production of new refined copper from domestic and foreign sources amounted to about 2,346,000,000 pounds, compared with 2,205,000,000 pounds in 1925, an increase of 141,000,000 pounds or 6 per cent. The production of secondary copper by primary refineries increased from 198,000,000 pounds to about 207,000,000 pounds in 1926, or 9,000,000 pounds, so that the total primary and secondary output of copper by the refineries was 150,000,000 pounds higher in 1926, being about 2,553,000,000 pounds compared with 2,403,000,000 pounds in 1925.

Refineries in the United States reported that at the end of 1926 approximately 131,000,000 pounds of refined copper were in stock, an increase from 124,000,000 pounds at the end of 1925. It was estimated that stocks of blister copper at the smelters, in transit to refineries, and at refineries, and materials in process of refining, were 415,000,000 pounds on December 31, compared with 432,000,000 pounds at the end of 1925, a decrease of 17,000,000 pounds. The increase of 13,000,000 pounds in refined stocks during the year and the decrease of 17,000,000 pounds in stocks of blister and unrefined materials, made a net decrease in stocks of 4,000,000 pounds.

The quantity of refined copper withdrawn on domestic account during the year was about 1,584,000,000 pounds, compared with 1,401,000,000 pounds in 1925, an increase of 183,000,000 pounds. The year 1918 was the only one in which domestic withdrawals surpassed those of 1926. The method of calculation is shown below:

**NEW REFINED COPPER WITHDRAWN FROM  
TOTAL YEAR'S SUPPLY ON DOMESTIC  
ACCOUNT, 1925-1926, IN POUNDS**

	1925	1926
Refinery production of new copper from domestic sources .....	1,688,000,000	1,788,000,000
Refinery production of new copper from foreign sources .....	521,000,000	608,000,000
Imports of refined copper (December, 1926, estimated) .....	100,000,000	132,000,000
Stocks of new refined copper January 1 .....	248,000,000	124,000,000
Total .....	2,547,000,000	2,602,000,000
Exports of refined copper (ingots, bars, rods, or other forms, December, 1926, estimated) ....	1,022,000,000	881,000,000
Stocks December 31 ....	124,000,000	137,000,000
Total .....	1,146,000,000	1,018,000,000
Total withdrawn on domestic account .	1,401,000,000	1,584,000,000

**IMPORTS AND EXPORTS.** The imports of unmanufactured copper during the calendar year 1926, according to the U. S. Bureau of Foreign and Domestic Commerce, amounted to 153,594,877 pounds of copper ore, concentrates, and matte, valued at \$19,065,075, as compared with 163,328,946 pounds in 1925. The imports of unrefined copper, including black, blister, and converted, in pigs, bars, etc., in 1926 totaled 476,015,696 pounds, valued at \$60,736,412, as compared with 379,333,500 pounds and \$48,870,358 in 1925. The imports of refined copper in 1926 amounted to 134,519,125 pounds, valued at \$18,458,579, as compared with 99,773,546 pounds, valued at \$13,831,407, in 1925.

The exports of copper in 1926 totaled in value \$141,203,636, as compared with \$161,165,820 in the previous year. These included: ores, concentrates, composition metal, and unrefined copper (copper contents), 5,465,152 pounds, valued at \$611,630, as against 1,839,093 pounds, valued at \$232,236, in 1925; refined copper in ingots, bars, or other forms, 856,124,528 pounds, valued at \$121,231,224 in 1926, as against 968,065,437 pounds, valued at \$140,220,827 in 1925; rods, 44,490,407 pounds, valued at \$6,857,722, against 54,269,842 pounds, valued at \$8,098,281, in 1925; wire 13,070,126 pounds, valued at \$2,247,861, as against 11,665,579 pounds, valued at \$2,094,108 in 1925; insulated wire and cable, 18,552,559 pounds, valued at \$4,816,308, as against 17,816,993 pounds, valued at \$4,900,264 in 1925. Of the exports of refined copper in 1926 the United Kingdom took 180,320,237 pounds, valued at \$25,458,147, a decline from 183,752,066 pounds, valued at \$26,702,786, in 1925; France took 175,150,816 pounds, valued at \$24,804,406, an increase from 145,809,549 pounds, valued at \$21,059,296, in 1925; and Germany took 153,360,480 pounds, valued at \$21,802,585, a decrease from 229,291,382 pounds, valued at \$32,991,251, in 1925.

**COPYRIGHT.** Registrations for the fiscal year 1925-26, according to the report of the

U. S. Register of Copyrights, numbered 177,635, as compared with 165,848 for the preceding year. Of these 73,455 were classed as books, but included pamphlets, leaflets, and contributions to periodicals, those printed in the United States numbering 68,776, those printed abroad in a foreign language 3430, while the remainder, 1249, were English books registered for ad interim copyright. The chief classes of the remaining registrations, in order of numerical importance, were: Periodicals, 41,169; musical compositions, 25,484; prints and pictorial illustrations, 13,382; photographs; dramatic or dramatico-musical compositions; works of art, including models or designs; maps; drawings or plastic works of a scientific or technical character; and motion picture photoplays. The renewals numbered 4029, as compared with 3309 in the preceding year. The fees paid during the year amounted to \$178,307.20. The total number of articles deposited from July 1, 1897 to June 30, 1926, was 6,003,676.

The effort to amend the copyright law in order to permit the United States to enter the International Copyright Union continued to be unsuccessful; bills for this purpose were again introduced in the 69th Congress, and were referred to the respective Committees on Patents. No action beyond committee hearings was taken by either House or Senate up to the close of the fiscal year except the enactment on July 3, 1926, of an amendment of section 15 of the Act of 1909, relating to manufacture. This provided that the general requirements of the act should not apply "to works printed or produced in the United States by any other process than those above specified in this section." On Nov. 18, 1925, the President issued a proclamation in behalf of citizens of Chile, under authority of section one (e) of the Act of 1909, copyright controlling the mechanical reproduction of music.

The gross receipts of the Register's office for the fiscal year were \$185,038.29; the total expenditure for salaries \$159,764.79; and for supplies, \$985.74. The year's business showed a substantial increase over that of 1925, which was the largest in the history of the office up to that time.

**CORN.** Production estimates received from fourteen countries by the International Institute of Agriculture at Rome indicated a total production in 1926 of 3,228,790,000 bushels, as compared with 3,388,550,000 bushels produced by these same countries in 1925. These data did not include the Soviet Republics, the Serb-Croat-Slovene State, Mexico and the South American countries. The yields of some of the leading corn-producing countries were reported as follows: Roumania 203,366,500 bushels, Italy 118,105,500 bushels, Hungary, 78,826,100 bushels and Czechoslovakia, 10,811,700 bushels. In 1925 the Soviet Republics produced 176,461,400 bushels, the Serb-Croat-Slovene State 149,232,800 bushels, Mexico 73,326,300 bushels and Spain 28,209,900 bushels. Argentina, in the crop year 1925-26, produced 279,516,300 bushels, the largest crop since 1914-15 when the total yield was 325,178,000 bushels. The Union of South Africa, in the 1925-26 crop year, produced 32,325,000 bushels. The Canadian production in 1926 was 6,744,000 bushels.

The 1926 crop of the United States, as estimated by the Department of Agriculture, was

2,645,031,000 bushels produced on 99,492,000 acres, making the average yield per acre 26.6 bushels. In 1925 the total crop was 2,916,961,000 bushels, the area 101,359,000 acres and the average acre yield 28.8 bushels. The average farm price Dec. 1, 1926, was 64.4 cents per bushel, which was 3 cents under the corresponding price the year before. The total value of the crops for the two years on this basis was \$1,703,430,000 and \$1,966,761,000 respectively. The yields of the leading States were reported as follows: Iowa 413,586,000 bushels, Illinois 312,970,000 bushels, Missouri 174,189,000 bushels, Indiana 170,528,000 bushels, Minnesota 147,662,000 bushels, Ohio 145,436,000 bushels, and Nebraska 130,407,000 bushels. Iowa devoted 10,912,000 acres, Illinois 8,946,000 acres, Nebraska 8,716,000 acres and Missouri 6,300,000 acres to the corn crop in 1926. The average farm price Dec. 1, 1926, in the different States ranged from 50 cents per bushel in Indiana to \$1.20 per bushel in Arizona and Nevada. For the year ended June 30, 1926, the United States exported 23,137,000 bushels of corn and 411,000 barrels of corn meal as compared with 8,460,000 bushels and 333,000 barrels the preceding fiscal year.

During the year 1926 the leading producing States had a surplus for which the farmers received an average price of only about 70 cents per bushel, the lowest since 1921 and equivalent to only 45 cents on a pre-war basis. The corn-hog ratio, or the relation of corn prices to hog prices, however, was favorable and those who had hogs to feed could make profitable use of the large corn crop. Corn is not as readily exported as other cereals and usually less than 3 per cent of the crop goes to foreign markets as corn; but more goes in the form of pork and pork products, as nearly 20 per cent of the pork killed under Federal inspection is exported. Ordinarily about 65 per cent of the corn crop is produced in the twelve north central or corn belt States, and it is from about nine of these States that most of the surplus corn of the country is shipped from the county in which it is grown. Most of the remaining 39 States do not produce enough corn to meet their own requirements, which accounts for the wide range in the price of corn in the different States. The demand for American corn in Europe was low during the year, due to liberal supplies of barley and oats on hand and a large surplus of corn, estimated at 167,000,000 bushels, available for export from Argentina.

Studies carried on by the Department of Agriculture indicated an average cost of production for the United States of 69 cents per bushel in 1925. For the years 1922, 1923, and 1924 this cost was 66, 68, and 82 cents per bushel respectively. According to the data reported the average cost of producing a bushel of corn in 1925, in the different groups of States, was as follows: North Atlantic 87 cents, South Atlantic 96 cents, East North Central 56 cents, West North Central 59 cents, South Central 99 cents and Western States 83 cents.

**CORN BORER CONTROL.** The European corn borer situation remained threatening during the year and efforts to prevent or reduce its spread and to work out methods of control were continued. Quarantine measures were strictly enforced and were extended as new areas were found infested. Conditions in the Lake Erie region were worse than the year before and in-

jury to the crop was especially severe in the Province of Ontario. The pest entered new territory during the year by crossing the borders of Indiana and West Virginia and by continuing its spread in earlier infested States. A National Corn Borer Committee was organized to increase the protection of uninfested sections and to further the work of control. An international conference called by this Committee was held Sept. 25, 1926, to inspect areas of infestation and devise research work and quarantine for the control of the insect. At this conference new types of corn harvesters, constructed to cut the stalk at the surface of the soil or to shred the stalks at the time of harvesting for the purpose of eliminating and destroying the borers, were demonstrated. See ENTOMOLOGY, ECONOMIC.

Frost warnings broadcast by the Weather Bureau station in Iowa on September 23 enabled farmers to harvest much of their seed corn the day before the frost occurred. The percentage of immature and frost-damaged ears of corn was large enough, in many sections of the corn belt, to necessitate culling at the time of harvesting. As officially reported, Ira Marshall, a Hardin County, Ohio, farmer who last year produced a world's record corn crop on ten acres, this past year bettered his own record by producing 1686.8 bushels on ten acres, or 168.68 bushels per acre. In an interstate husking contest held at Fremont, Nebraska, Fred Stanek of Iowa took the championship by husking 2121 pounds of corn in one hour and twenty minutes. The sweet corn crop produced for canning in 1926 amounted to 803,000 tons grown on 311,640 acres, the average yield per acre being 2.6 tons.

**CORN BORER, EUROPEAN.** See CORN and also ENTOMOLOGY, ECONOMIC.

**CORNELL UNIVERSITY.** A non-sectarian, co-educational institution of higher education at Ithaca, N. Y.; founded in 1865. There were 5471 students enrolled in the 1926 fall session, distributed as follows: Graduate school, 570; college of arts and sciences, 1979; law, 163; medicine, 264; architecture, 174; engineering, 1122; veterinary medicine, 96; agriculture, 689; home economics, 464. Of these students 1328 were women. For the 1926 summer session there were 2133 students enrolled. The faculty, composed of 1130 members, had 307 professors, 185 assistant professors, 10 lecturers, 409 instructors, and 219 assistants. The productive funds of the institution on June 30, 1926, were \$20,970,886. The income applicable to current expenses of the fiscal year was \$6,685,176. The lands and buildings were valued at \$10,117,457, and the equipment at \$3,859,344. The library contained 780,000 volumes. The George Fisher Baker non-resident lectureship in chemistry, endowed by Mr. Baker with a gift of \$250,000, was inaugurated in the spring semester of 1926 with a course of lectures by Prof. Ernst Cohen of the University of Utrecht; the lecturer for the first semester of 1926-27 was Professor Fritz Paneth of the University of Berlin. President, Livingston Farrand, LL.D.

**CORRUCINI, kô-rôo-ché'né, ROBERT.** An Italian dramatic basso and conductor, died in Portland, Ore., April 30. He was born at Macerata, June 7, 1859, and received his musical education in his native city. After five years as a violinist at the Bologna opera he made his début in Donizetti's *L'Elisir d'Amore* at Tolentino in 1885. He then sang in many opera houses

in Italy, Russia and also in Lisbon and Vienna. In 1906 he came to New York as prompter at Hammerstein's Manhattan Opera House, and subsequently filled positions as chorus-master with various operatic organizations. In 1915 he settled in Portland as a teacher of singing and conductor of the Portland Opera Association.

**COSMIC RAYS.** See **PHYSICS**.

**COSTA RICA**, *k'osta rēk'ā*. A republic of Central America lying between Nicaragua and Panama, and bounded by the Caribbean Sea on the east and the Pacific Ocean on the west. Capital, San José.

**AREA AND POPULATION.** The area is estimated at 23,000 square miles. On Dec. 31, 1924, the population was estimated at 507,193, of whom the greater part were in the provinces of San José and Alajuela. The Indian natives numbered about 3500. In 1924 the movement of population was: Births, 19,672; deaths, 11,344; marriages, 2979. In the same year the immigrants numbered 5186 and the emigrants, 4756. The populations of the larger cities as estimated in 1924 were as follows: San José, 42,112 (with suburbs, 55,206); Alajuela, 13,737; Cartago, 19,376; Heredia, 13,842; Liberia, 2778; Limón, 11,989; and Puntarenas, 5867.

**EDUCATION.** Primary instruction is free and compulsory, and the elementary schools are under local councils but subventioned by the central government. In 1924 there were open 442 elementary schools with 1379 teachers and an enrollment of 35,876. For secondary education there is a lyceum at San José for boys with 355 pupils in 1924, and a college for girls, with 249 pupils. There are colleges at Cartago, Alajuela, and Heredia, together with professional schools of medicine, law, pharmacy, and dentistry.

**PRODUCTION.** The chief occupation is agriculture, but there are large areas not yet cleared that contain valuable cabinet woods. Coffee and bananas are the principal agricultural products. The next industry in importance is gold and silver mining, which is carried on on the Pacific slope. There are also deposits of manganese ore near the Pacific.

**COMMERCE.** The United States Bureau of Foreign and Domestic Commerce reported in November, 1926, that the foreign trade of Costa Rica had been steadily growing since 1916, when it was valued at \$17,725,097. In the abnormal year 1920 it reached a total of \$37,303,548, the highest level yet attained. The value of imports in 1925 was \$13,820,944 and the value of exports, \$16,416,095.

#### COSTA RICAN TRADE, 1921 TO 1925, INCLUSIVE \*

Year	Imports	Exports	Total
1921	\$9,177,802	\$11,883,981	\$21,061,783
1922	8,312,584	14,220,776	22,533,360
1923	9,783,394	12,829,982	22,613,376
1924	12,003,017	16,565,233	28,568,250
1925	13,820,944	16,416,095	30,237,039

\* Values converted from Costa Rican official statistics

The most important national industry is coffee growing. Costa Rica is third in the production of coffee in the Central American republics. In 1925 the country produced 153,520 metric quintals, and in the same year the value of coffee exported was \$8,403,354, which was more than 50 per cent of the exports. The coffee crop for 1926-27 was estimated at about the same as for 1925-26. The banana is next to coffee in importance as an agricultural product. Costa Rica

is the second country of Central America in the growing and exportation of this tropical fruit. The total shipments in 1925 were 8,348,972 stems valued at \$6,261,729. Production has gradually increased in the last five years. Cacao is becoming more important each year as a replacement crop for bananas. In 1925 Costa Rica exported 4,143,650 kilos valued at \$620,224.

#### COSTA RICAN EXPORTS OF PRINCIPAL COMMODITIES

Commodity	1924	1925
Coffee	\$8,427,473	\$8,403,354
Bananas	6,065,401	6,261,729
Cacao	1,090,432	620,224
Gold and silver	672,973	607,099
Woods:		
Cedar	61,564	79,490
Mahogany	22,578	56,704
Sugar	53,001	18,226

**FINANCE.** In relation to the economic situation of the Costa Rican government, the President stated in his message at the opening of Congress, May 1, 1926, that government receipts were 25,781,231 colones in 1925, as compared with 23,259,050 colones the previous year, while expenditures for 1925 were 23,767,550 colones, or 658,132 colones less than the amount allowed by the budget. The President suggested the lessening of the public debt as a means of saving money to be used to better advantage. In 1926 the charge for interest and amortization represented 8,775,648 colones, with relation to a probable fiscal receipt of 24,962,933 colones. In 1925 the disbursements for the same purpose were 9,173,752 colones and the government receipts 25,781,231 colones. Thus of every 2.83 colones which enter the treasury 1 colon passes directly to the creditors of the republic.

**COMMUNICATIONS.** In 1924 there entered the ports of the republic 504 ships of 1,048,262 tons, and there were cleared 489 of 1,033,788 tons. The length of railway mileage in 1925 was 413, of which 81 miles are state owned. A contract for the electrification of the Pacific Railway of Costa Rica by a prominent German electric company was signed July 24, 1926. Following the ratification of the contract by Congress the work was to be started. According to the contract the work is to be completed within thirty months after it has been started, a dam and hydro-electric plant was to be built to furnish power for the railway, and the cost of construction would be financed by the company, which would issue bonds paying 7½ per cent interest, but the sum will ultimately be paid by the government, which will make yearly payments of 720,000 colones over a period of 23 years.

**GOVERNMENT.** The executive power is vested in a President who is elected for four years and who carries on his administration through six secretaries of state appointed by him and responsible to him; legislative power in a chamber of representatives called the Constitutional Congress with 43 deputies elected for four years, one-half retiring every two years. President in 1926, Don Ricardo Jiménez, elected on Dec. 7, 1923; assumed office May 8, 1924, for a period of four years.

On May 14 the press reported that 250 persons were killed and 100 others injured as a result of a wreck on the Costa Rican Railroad. The train was an excursion trip and was occupied largely by members of the farming and laboring classes. A constitutional amendment

affecting elections was passed during the year. The amendment is to the effect that the candidate receiving an absolute majority of the votes cast shall be declared elected President. If no candidate have an absolute majority, then another election shall be held. The election of the President is to be held on the second Sunday in February of the last year of the term of office. No President may be reelected for the following term.

**COTTON.** The cotton crop of the United States for 1926 was the largest ever produced. The Crop Reporting Board of the U. S. Department of Agriculture, on December 8, estimated the crop at 18,618,000 bales of 500 lbs. gross weight. This is an increase of more than 2,400,000 bales over the crop of 1925 and 7,100,000 bales more than the average production for the 5-year period, 1921 to 1925. The area planted to cotton in the United States in 1926 was about 49,000,000 acres, 2.9 per cent of which was abandoned before harvest. The average production of lint per acre was estimated at 187 lbs. as compared with 153.7 lbs. for the 10-year period, 1916 to 1925. Planting conditions were favorable over the entire cotton belt, but cool weather and early drought followed in some regions. After August the crop was favored by warm weather and temperatures continued above normal until late in October. The cotton boll weevil and the cotton flea beetle, while quite generally distributed, caused comparatively little damage. A considerable amount of cotton remained to be ginned at the beginning of December, especially in the western areas, and the total crop will depend on weather conditions, the low price of cotton making it unprofitable to pick low-grade lint. The *Economic Review* says the outstanding feature of the 1926 cotton crop was the greatly enlarged area planted in Texas and Oklahoma, the increase being over 50 per cent in Texas and nearly 70 per cent in Oklahoma. The Bureau of the Census reported ginned on Dec. 13, 1926, 15,542,249 running bales.

**WORLD PRODUCTION.** The world production of cotton for 1926 is believed to be larger than the crop of 1925 when 27,900,000 bales were produced, India being the only country of large production reported with a considerable decrease. Of the world's crop of 1925, according to *Foreign Crops and Markets*, the United States produced 16,104,000 bales of 478 lbs. net weight; India, 4,660,000; China, 2,114,000; Egypt, 1,629,000; Brazil, 793,000; Russia, 737,000; Mexico, 22,000; Peru, 194,000; Uganda, 136,000; Chosen (Korea), 125,000; and Argentina, 67,300 bales.

The accompanying table shows, by States, the cotton crop of the United States for 1925, as reported by the Bureau of the Census, the estimated crop for 1926, and the amount reported as ginned to Dec. 13, 1926:

States	Crop 1925	Estimated crop 1926	Reported ginned December 13, 1926
	500 lb. bales	500 lb. bales	Running bales
United States . . . .	16,108,679	18,618,000	15,542,249
Alabama . . . . .	1,356,719	1,490,000	1,415,000
Arizona . . . . .	118,588	115,000	82,564
Arkansas . . . . .	1,604,628	1,620,000	1,322,054
California . . . . .	121,795	128,000	97,914
Florida . . . . .	38,182	33,000	32,828
Georgia . . . . .	1,163,885	1,475,000	1,366,900
Louisiana . . . . .	910,468	820,000	771,790
Mississippi . . . .	1,990,587	1,980,000	1,647,821

States	Crop 1925	Estimated crop 1926	Reported ginned December 13, 1926
	500 lb. bales	500 lb. bales	Running bales
Missouri . . . . .	294,262	255,000	179,211
New Mexico . . . .	64,444	72,000	53,040
North Carolina . . .	1,101,799	1,250,000	1,081,710
Oklahoma . . . . .	1,691,000	1,950,000	1,229,348
South Carolina . . .	888,666	1,030,000	902,655
Tennessee . . . . .	517,276	475,000	386,431
Texas . . . . .	4,165,374	5,900,000	4,858,287
Virginia . . . . .	52,535	55,000	41,879
All others . . . . .	23,521	20,000	10,314

The table includes 557,729 round bales which are counted as half bales. The crop of Lower California, which is largely marketed through California, was estimated at 80,000 bales.

An important factor in the cotton crop is the seed. Oil mills in the United States for the year ended July 31, 1926, crushed 5,538,937 tons of seed which yielded 1,042,656 bales of lint, 1,611,689,475 lbs. of oil, 2,588,047 tons of cake and meal, and 1,541,397 tons of hulls, besides other products. Exports of domestic cotton and lint for the cotton year, Aug. 1, 1925, to July 31, 1926, were 8,154,370 bales, of which 2,274,758 bales went to the United Kingdom; 918,695 to France; 747,518 to Italy; 1,677,564 to Germany; 1,015,853 to other European countries; and 1,124,853 to Japan. Imports of cotton to the United States during the same period were: From Egypt, 238,620 bales; Peru, 16,637; China, 22,453; Mexico, 23,553; and India, 22,143 bales.

The unusually large world's crop of 1926 and the carry over, which was estimated by the *Commercial and Financial Chronicle* at 7,665,000 bales, depressed the price of cotton in the United States to a very low figure. Various agencies, such as increased activity of cotton mills, larger exports and cooperative marketing, have aided in stabilizing the market. The spot price of cotton quoted by the New York Cotton Exchange on Jan. 5, 1927, was 12.65 cents per pound. This is below the cost of production, which was estimated by *The Analyst* of Nov. 5, 1926, at 17.5 cents a pound. If sold on the basis of the January 5 price farmers would receive from \$550,000,000 to \$600,000,000 less than the crop cost them.

To prevent such ruinous losses the President appointed a commission, headed by Hon. Eugene Meyer, Managing Director of the War Finance Corporation, to aid in working out a plan for the orderly marketing of the crop. Nine cotton finance corporations were organized in various parts of the South, with an aggregate capital of \$16,000,000, and, through the intermediate credit banks, a credit of \$160,000,000, to finance the storage of approximately 4,000,000 bales which are to be held for 18 months or more, or until favorable markets develop. Special efforts were made to induce growers to pool their product and not dump it upon an already demoralized market. The successful carrying out of these plans contemplated a smaller acreage planted to cotton in 1927, and a reduction of 25 per cent was proposed.

The efforts of European countries to increase cotton production in their own or colonial territory were continued. The British Cotton Growing Association considered the most promising countries for developing cotton production within

the British Empire, aside from India, were Uganda, Sudan, and Nigeria. In 1925 exports of cotton from Tanganyika, Uganda, and Nyassaland amounted to 227,404 bales of 400 lbs.; Anglo-Egyptian Sudan, 41,745; and Nigeria, 37,147 bales. The total production of these countries for 1925 was 366,700 bales. The quality of the cotton produced in Uganda and Nigeria is excellent, and in British markets it usually commands a premium of from 3 to 5 cents a pound over American middling. The Makwar Dam in the Sudan was completed in 1925 and gravity water was supplied to 74,000 acres of cotton in the Gezira Plain. It is reported that more than 170,000 acres of cotton were grown under irrigation in the Sudan in 1926, and the production of rain-grown cotton in the southern part of the country would exceed 15,000 bales. In Kenya Province drought, prospective low prices, and native indifference reduced the area planted in 1926. The British Cotton Growing Association claims that there were grown under the auspices of the association in 1925 over 365,000 bales of cotton. Transportation is a limiting factor in developing the cotton industry, and during the year a new branch railroad into Northern Nigeria was completed that will facilitate shipment. Motor transportation is being extensively developed in various African colonies to solve transportation difficulties.

In Queensland, the agreement between the Government and the British-Australian Cotton Association for a guaranteed price for cotton expired July 31, 1926, and a growers' pool was organized to market the crop. An unfavorable season is reported to have caused a reduction in yield. An estimate of the Division of Cotton Culture in Queensland gives the cost of growing and delivering a pound of Queensland cotton to the Liverpool market as 23.18 cents, exclusive of the value of the seed.

The Indian Central Cotton Committee (YEAR BOOK, 1925, p. 182) is continuing its work on marketing, preventing frauds, etc. The Ginning and Pressing Acts have been extended throughout India, and records are now kept of every bale ginned. The importation of American cotton is permitted only through the port of Bombay, where it must be fumigated as a precaution against the introduction of the boll weevil. The Institute of Plant Industry, established at Indore by the Central Cotton Committee, began research work on various cotton problems. The cotton crop of India for 1926 was estimated at about 8.5 per cent less than that of 1925.

The crop in Egypt for 1926 was about 7 per cent less than that of 1925 due, in part, to the restriction placed on planting. An official decree was issued Dec. 19, 1925, restricting planting of cotton to two-thirds of the average area. This was expected to reduce the area planted by 180,000 acres but it came too late to permit changing systems of agriculture for 1926, and the decree was not rigidly enforced. Recent reports announce the decision of the Cabinet to limit for three years the acreage of cotton to two-thirds of the average area. Recent experiments have shown that summer fallowing in Egypt not only increases the yield of cotton but also conserves irrigation water for other crops in the delta region.

Italy was attempting to develop a cotton-growing industry in Italian Somaliland, and in 1926 about 4500 acres were planted to this

crop. Experiments have shown that Sakellarides is the most profitable variety for planting in that country. The cotton production of European and Asiatic Turkey for 1926 is estimated at 134,500 bales, a decided increase. In Greece a crop of 35,000 bales is indicated as compared with 15,000 bales in 1925.

In South America cotton growing was gradually increasing. Brazil showed a reduction in the crop of 1925 over that of the preceding year, and for 1926 an increase was estimated. Argentina was expected to increase its cotton production from about 67,000 bales in 1925 to 146,000 in 1926.

The International Cotton Federation Conference will hold meetings in Egypt from Jan. 24 to Feb. 7, 1927. A Cotton Textile Institute was organized during the year, with headquarters in New York City, to promote the progress and development of the cotton industry through research, the publication of information, and collecting statistical data on all phases of the industry. Walker D. Hines has been chosen President of the Institute. See AGRICULTURE; AGRICULTURAL EXPERIMENT STATIONS; ENTOMOLOGY, ECONOMIC.

**COTTON BOLL WEEVIL.** See ENTOMOLOGY, ECONOMIC.

**COTTON HOPPER.** See ENTOMOLOGY, ECONOMIC.

**COTTONSEED.** See COTTON.

**COUÉ**, koo'ä, PHILIPPE ÉMILE. A French mental healer and hypnotist, died at Paris, July 2. He was born at Troyes, France, in 1857, but his family removed to Nogent-sur-Seine, where he was educated until he reached the age of fifteen when he attended the Lycée of Troyes. Here he received his degrees in arts and sciences, and after serving in the army for a year was apprenticed to M. Delauney, a druggist of Troyes. Later, receiving a tutorship at the College of St. Barbe, he won a government fellowship, and became subsequently a pharmacist's assistant at the Necker Hospital. Again taking up work in pharmacy in Troyes, Coué acquired the sole control of the druggist business. His attention being directed to the application of hypnotism to healing, he found that he was able to hypnotize people without trouble, and he sought to influence the minds of his subjects to throw off suggestions which affected their health.

Coué's work attracted considerable attention and his well-known phrase, "Every day, in every way, I am growing better and better," secured a wide vogue. Coué was embarrassed by the attention he received, as he did not pretend that his method was a "faith cure" universally applicable, or that it was a substitute for other, and particularly medical, treatment. Nevertheless, it became a fad, and Coué went to London where he gave clinics, which attracted the attention of many people, being received by society and considered a person of importance. In 1923, he came to America where he lectured on his doctrine of psychological treatment and held many clinics. It was Coué's theory that the subconscious mind could direct the diseased organ to do the thing that would make it better, and the object of repeating his formula was to train the subconscious mind in this way. He was said to have been particularly successful with persons who stammered, and with those who did not have full control of their legs and were convinced that they could not walk. He wrote a

volume which described his theories and methods, and this was published under the title of *La Maitrise de soi-même par l'autosuggestion consciente*, and which was translated under the name of, *Self-mastery by Conscious Autosuggestion*. He also published a number of papers in the bulletins of the Lorraine Society of Applied Psychology, of which he was the President.

**COUNCIL MANAGER PLAN.** See MUNICIPAL GOVERNMENT.

**COUNTRY LIFE ASSOCIATION.** See AGRICULTURAL EXTENSION WORK.

**COURT TENNIS.** See RACQUETS.

**COWS.** See DAIRYING.

**Craven, Alfred.** American civil engineer, died in Pleasantville, N. J., September 30. He was born at Bound Brook, N. J., Sept. 16, 1846, and graduated from the United States Naval Academy in 1867, but resigned from the service in 1871, when he joined the California geological survey, being engaged in irrigation work in the Sacramento and San Joaquin valleys. He was in private practice as a mining engineer in California and Nevada until 1884, during which time he was connected with the development of the famous Comstock Lode, and design of the Sutro tunnel built to drain some of the deep mines. Returning to the east in 1884, he became division engineer of the new Croton Aqueduct, being in charge of the construction work of the Carmel and Titicaca dams and reservoirs, and in 1895 was in charge of the construction of the Jerome Park Reservoir, in which capacity he served until 1900. He was then appointed division engineer of the Rapid Transit Commission of New York City, being placed in charge of the subway at Forty-second Street and Broadway to One-hundred and Fourth Street. In 1905 he was appointed deputy chief engineer of the Rapid Transit Commission, and in 1907 he was made deputy engineer of subway construction of the Public Service Commission, acting as chief engineer and later as chief engineer in charge of the dual system of subways of New York City from 1910-16.

It was under Craven's administration that the New York dual subway system was in great part brought to completion and in 1916 he retired as chief engineer of the Rapid Transit Commission to become consulting engineer to the Public Service Commission and its successor, the Transit Construction Commission. In 1915 Craven was appointed by the Secretary of the Navy as one of two representatives of the American Society of Civil Engineers on the Naval Consulting Board. In 1920 he retired from active practice as consulting engineer. In 1916 he served as Vice-President of the American Society of Civil Engineers.

**CREAM.** See DAIRYING.

**CRETE.** An island in the Mediterranean Sea, ceded to Greece after Aug. 10, 1913. Area, 3327 square miles; population at the census of 1920, 110,746. Capital, Canea, with a population of 37,425 in 1920.

**CREWS, KRÖÖS, RALPH.** American lawyer, died as the result of an automobile accident near East Moriches, L. I., N. Y., September 6. He was born at Mt. Vernon, Ill., March 29, 1876, and after studying at the Hyde Park High School, Chicago, received the degree of LL.B. from the Chicago College of Law in 1897. Admitted to the Illinois bar in that year, he practiced at Chicago until 1917. In that year he was

commissioned major in the Ordnance Department of the United States Army, being in charge of the contract section of that service, and later special assistant to the Chief of Ordnance at Washington, D. C. He was promoted to lieutenant-colonel and colonel in the Ordnance Department, and was discharged at the conclusion of the War. On January 1 he became a member of the law firm of Sherman & Sterling of New York City, and was a director of the National City Company, the Metropolitan Trust Company, the Old Ben Coal Company of Chicago, the Austin Machinery Company of Chicago, Brokaw & Company, Thomas G. Logan, Inc., the United States Fidelity & Guaranty Company, and other concerns. As a corporation lawyer he represented a number of large interests.

**CRICKET.** There were no international cricket competitions of importance in 1926, the game flourishing principally in Great Britain where the intercounty major title was won by Lancashire and the minor honors went to Durham. England defeated Australia in their annual contest. Cambridge won its usual tilt with Oxford. J. B. Hobbs, called the "Babe Ruth of Cricket," was again the outstanding British player, scoring the highest batting average and the most centuries. The leading bowler was W. R. Rhodes.

In the United States the Crescent Athletic Club won the championship of the New York and New Jersey Cricket Association, Brooklyn finishing second and Manor Field, third. E. G. Hull of Manor Field headed the batting averages. The Brooklyn Cricket Club won the championship of the Metropolitan District League. The competition for the Halifax Cup resulted in a victory for the Merion Cricket Club of Philadelphia.

**CRIME.** Public attention continued focused on the problem of crime during 1926. The National Economic League, in a poll taken among its members, voted lawlessness to be the nation's gravest problem. Other semi-public bodies concerned themselves, not merely with contemplating the seriousness of the crime problem, but with devising plans for its solution; while the public as a whole showed a disposition to shift the problem on to the back of experts, preferably psychologists, who were presumed to have penetrated to the inner springs of human nature. The public also contributed to the agitation for the severer punishment of criminals, and in New York State this bore fruit in the passage of the Baumes Laws. (See below, under *New York*.)

In the midst of the conflicting plans and discussions of criminologists and sociologists, it is necessary to keep two distinct problems in mind. The first is crime as a problem for social administration through punishment, and the second is crime as presenting a problem for spiritual and moral education. People often forget that the interest of the state as it is at present organized is necessarily more in the first than in the second. The state is not in a position to reform souls: it would be satisfied if it can restrain, by a system of rewards and punishments, the outward manifestations of crime. The state need not be spiteful in its punishment, for it must recognize that punishment is not an absolute solution, and furthermore that in so far as it has the power it is not exempt from the duty of moral reform of the criminal.



With these notions in mind it is possible to pick one's way among the literature of the year. It was generally agreed that the greatest need of the United States was a reform of procedure in criminal law. The second greatest need is the collection and proper interpretation of criminal statistics. Both of these needs are independent of theories about moral or psychological reform of the criminal.

**CRIME AND THE LAW.** Chief Justice Taft, back in 1906, had declared that the administration of criminal law in the United States was a disgrace. That this continued to be true was attested by the fact that Harvard University in its endowment campaign for its Law School used this statement in its literature, and continued to use it despite the protest of W. D. Guthrie that it was too sensational.

The Sub-committee on Criminal Procedure and Judicial Administration of the National Crime Commission published in July a list of twenty recommendations. Chief among these were the proposals for the tightening of paroles and for verdicts by five-sixths of the jury in all felonies except those carrying the death penalty. Other recommendations called for public defenders for accused persons without means to hire lawyers; for the questioning of accused persons before a magistrate (and thus obviating third-degree methods by the police); for wider latitude in the judge's instructions to the jury; for the right of the public, as well as of the defense, to object to a particular judge sitting as a trial judge; for joint trials in cases of two or more persons accused of the same crime.

At about the same time the American Bar Association, at its annual meeting, discussed the reform of the administration of criminal law and the changes in legal procedure. Judge Oscar Hallam, of Minnesota, chairman of the section on criminal law, proposed the better administration of existing laws as the best remedy for the wave of crime. He also proposed more publicity at every phase of the administration. He said:

Every step, from detection to ultimate release after fulfillment of sentence, should be open, and the public should be kept advised. The facts should be arrayed, not by sensational methods of the police reporter, but by those of the careful investigator.

Judge Hallam then went on to discuss the definite lines of wholesome procedure that may be established by statutes or rules of court. He said:

- We can eliminate straw bail.
- We can simplify indictments and permit their amendment.
- We can simplify the drawing of juries and improve their personnel by limiting the number of challenges and placing greater power of control in the courts.
- We can permit comment on the failure of the accused to testify in his own behalf.
- We can require a plea of insanity to be made in arraignment, require the commitment of such a defendant for observation by experts, and permit the calling of experts by the court.
- We can shorten the time to appeal; require appeals to be more promptly heard.
- We can provide increased punishment where crime is committed by one in possession of a gun.
- We can permit paroles to be made only after judicial investigation and notice to trial judge and prosecutor.
- We can revise procedure in other ways, speeding trials and eliminating technicalities.

The proposals of Judge Hallam and of the National Crime Commission may be compared with the revision of the New York criminal

statutes which went into effect in the middle of the year. (See below, under *New York*).

Also it should be kept in mind that the revision of legal procedure cannot by itself accomplish much unless it is the result of a new public attitude towards crime. The interlocking of crime with politics, which is a feature of American cities (see below, under *Chicago*), furnishes a ready explanation why the administration of criminal law and legal procedure are in the state that they are. Other and more subtle connections between crime and American life may also be cited to show why the United States gets the sort of lawlessness that conditions invite.

Former Governor Hadley, of Missouri, declared in July that 90 per cent of the persons guilty of major crimes are not apprehended and punished. And of those who are apprehended, he said, about 75 per cent escape the minimum punishment provided by law. Such a state of things is not traceable to any single situation as a defect in legal procedure, but must be held to reflect a more or less fundamental condition of American life, the reform of which can only be slow. The *Independent* remarked in this connection that "while it is important to reform the criminal statutes and hasten judicial procedure, it is even more important to catch the criminals. And at present chasing criminals is more of a game than a science in the United States."

An illuminating discussion of the relation of crime and politics is contained in an article by Prof. Raymond Moley in the *Annals of the Academy of Political and Social Science* (May, 1926, p. 79). Professor Moley traces the influence of the political broker in American machine politics and shows how in all cities the severity of the law is tempered by political influences.

**STATISTICS.** Almost every pronouncement during the year from authorities on criminology stressed the lack of adequate crime statistics in the United States. The lack of a central agency and the lack of competent experts to collate the important facts were the two things universally condemned. There was no standard method of compiling records of crime, and the facts were scattered in the records of city courts and state institutions. The Federal government does not handle any criminal statistics except the figures as to the prison population.

The use of present statistics in order to point with alarm at the crime wave was attacked by Clarence Darrow in an article in *Harper's* (Oct. 1926). Mr. Darrow took as his text the statistics of the Chicago Crime Commission, and seemed to have no trouble in demonstrating that crime statistics have both to be expertly compiled and expertly interpreted in order that they should have scientific weight. He also took occasion to condemn the agitation for severer punishment and insisted that the cure for crime lay in the safeguarding of the early training of our youth.

Dr. F. L. Hoffman, writing in the *Annals of the Academy of Political and Social Science* (May, 1926) also refused to take too seriously the present available crime figures. He said, however, that "homicides are unquestionably on the increase," and that "the present rate of frequency for the United States considerably exceeds that of any other civilized country." He also pointed to the futility of capital punishment as a check on homicide, inasmuch as in New York State out of twenty-one convictions



and death sentences, only four persons were actually electrocuted.

In the same periodical Dr. I. M. Rubinow analyzes the prerequisites for the proper compilation of criminal statistics. Aside from the need of a central bureau with special State bureaus working together—which everyone admits to be necessary—Dr. Rubinow shows the necessity, not of compiling routine figures, but of so framing the statistician's inquiries that the answers will shed scientific light on sociological questions. As he himself puts it,

The things we are looking for or should look for in crime statistics are, in non-technical language, the following: How much crime? What kind of crime? How much of each kind? More or less? What are we doing about crime? What are we doing with the criminals? What are the results of our present methods of treating crime? Why? Why and when is there more or less crime?

A drop in the homicide rate in 1926 was seen by the Metropolitan Life Insurance Company on the basis of the vital statistics of the company's industrial policyholders for eleven months of 1926. The company's reports cover more than 17,000,000 of the population.

The company in its announcement said that murder and manslaughter are still a blot on the good name of America, and that homicides are twelve times more numerous than in England and Wales and five and a half times more numerous than in Canada. According to the company's records, New England has fewer homicides than any other section of the country. Other states with good records are Delaware, Colorado and Oregon.

The homicide rate for the entire country has shown an upward trend in the sixteen years from 1911 to 1926, at the same time that the suicide rate has gone down 50 per cent.

CHICAGO. Chicago has for years had the worst reputation for crime of any American city, but it remained for an organization purporting to represent the city's better element to advertise this year the unsavory situation before the Federal Government at Washington. On February 28, 1926, a petition was presented to the United States Senate on behalf of the Chicago Better Government Association asking for a Federal investigation of the alliance between crime and politics in the city of Chicago. The excuse for a Federal investigation was that the criminal element comprised chiefly aliens, and that the regulation of aliens was a Federal duty under the immigration laws. Another reason for Federal jurisdiction was the intimate connection of the crime-politics alliance with the prohibition situation.

In the absence of the regular Senators from Illinois the petition was presented by Vice-President Dawes. It was referred to the Committee on Immigration, of which Senator Hiram W. Johnson of California was chairman. The committee reported on March 2, declining to undertake any investigations. Nothing concrete came out of the presentation of the petition. None the less the petition, as well as the comments which it aroused, remains a valuable sociological document.

The petition said in part:

For the past four years there has been growing up in this commonwealth a reign of lawlessness and terror, openly defying not only the Constitution and laws of the State of Illinois but the Constitution and laws of the United States as well. The people of this commonwealth

find themselves helpless to combat and change this condition.

There has been for a long time in Chicago a colony of unnaturalized persons hostile to our institutions and laws, who have formed a super-government of their own—feudists, blackhanders, members of the Mafia—who levy tribute upon citizens and enforce collection by terrorizing, kidnapping, and assassinations.

Many of these aliens have become fabulously rich as rum-runners and bootleggers, working in collusion with the police and other officials, building up a monopoly in this unlawful business.

A ring of politicians and public officials, operating through criminals and dummy directors, are conducting a number of breweries and selling beer under police protection. Connivance of city and county law-enforcing officials with the gangsters has fastened a condition in which people of this county find themselves helpless. Five breweries are making and selling pre-Volstead beer openly and under police protection. Evidence multiplies daily that many public officials are in secret alliance with underworld assassins, gunmen, rum-runners, bootleggers, thugs, ballot-box stuffers, and repeaters.

The petition was drafted by the Rev. E. L. Williams and purported to express the sentiments of 200,000 persons. Mr. Williams denied that politicians had a hand in the drafting, and it seemed to be the intention of the petition to attack the local politics of both parties, Republican and Democratic. None the less the entire city administration, including Mayor Dever and State's Attorney R. E. Crowe, denounced the filing of the petition as a calumny on Chicago. Mayor Dever in a public statement denied the charge of an alliance between the Chicago underworld and factional politics, and pointed out that the situation in Chicago was no worse than elsewhere. "Chicago," he said, "needs no outside help to take care of its criminal situation, which, incidentally, I don't believe is any worse than that of any other city in the United States. There is no reason why Chicago's reputation should be bandied about Washington by irresponsible parties."

The filing of the petition was attacked also by Representative A. J. Sabath and other public officials of Illinois and Cook County. All regarded it as in bad taste.

Senator Hiram Johnson, speaking not for the Senate committee but for himself, gave the following as the reason for the rejection of the petition:

Every populous American city has its peculiar local problems. Questions relating to vice conditions, corruption, and the thousand and one things incidental to our cosmopolitan character constantly arise.

For a committee of the Senate, upon a roving commission, to undertake an investigation of these local problems would be, in the absence of an all-compelling Federal question, a subversion of the fundamental principle of self-government. An investigation in reference to one great city would invite similar investigations in reference to many. Unless, therefore, there is something of the most vital consequence to the Government and the administration of Federal laws, it would be, first, an unwarranted interference, and, next, a never-ending work for a Senate committee to undertake an investigation of the internal conditions of our great cities.

It is interesting to note that while the officials of Chicago and Illinois all denied the charges of collusion between government and crime, the newspapers of Chicago published photographs showing the presence of officeholders at a banquet attended by many to whom the newspapers attribute a highly unsavory reputation.

It is also of interest to note that the Senate Committee, while rejecting the petition, did not reject one of the suggestions incorporated in it, namely, the registration of aliens. During the year several proposals were made in Congress

for the registration of aliens, but all were voted down.

NEW YORK. On July 1, 1926, there went into effect in New York State a series of amendments to the criminal code calculated to bring about a stricter prosecution and punishment of crime. The laws were drafted under the leadership of Senator Caleb H. Baumes and are frequently referred to as the Baumes laws. We give below a summary of their provisions as prepared in a statement issued by the Merchants' Association of New York City:

Provision is made for a statewide collection of criminal records, such as finger-prints, Bertillon measurements, etc., by police officers and prison wardens, and the interchange of such information with the Federal authorities and police officers of other States and countries.

The absence or existence of a criminal record must be established before a person charged with a felony or any one of seven specific misdemeanors can be admitted to bail. The court may also use its discretion in refusing bail to a person charged with any one of these misdemeanors.

District attorneys, except in New York County, are required to proceed against the surety in criminal bail bonds within sixty days after the adjournment of the court if the court direct the forfeiture of the bonds, instead of "at any time" as heretofore.

Persons jointly accused may hereafter be tried separately or jointly in the discretion of the court.

A defendant in a criminal case must file appeal within thirty days, instead of one year as formerly, and appeals must be argued within ninety days, unless the time is extended by the court, and, except in instances where the Appellate Court is overruled, there shall be but one appeal.

The sentences of judges will hereafter be carried out as imposed. The amendment, by abolishing compensation and reducing the time granted for commutation, through the substitution of a new form of commutation limited to five days a month, will have the effect of increasing definite sentences by from 16 to 60 per cent. Commutation and compensation in the case of life sentences will hereafter be abolished.

The actual term of imprisonment in a State prison will in future be no less than one year, and this term may not be reduced.

The statutory sentence for felony shall be increased, when committed by armed persons, from five years in case of a first offender to twenty years or even life in case of a fourth offender. And such armed persons, even when first offenders, may not be released on probation, or otherwise have their sentences shortened.

The penalty for burglary in the first degree shall be not less than fifteen years; for robbery in the first degree, from fifteen to twenty years. A life sentence, in future, will not mean a minimum of ten years or an indeterminate sentence; it will mean a life sentence.

Persons convicted for the fourth time of felony must hereafter serve a life sentence. Persons originally sentenced as first offenders may be resented if it is discovered they have previously been convicted.

The receiving of stolen property in any amount is now a felony, with the maximum penalty increased to twenty years imprisonment.

The operation of the Baumes laws, as tested out in the six months between July 1 and Dec. 31, 1926, was greeted with mingled comments. Police officials generally praised the laws and declared that they were having a marked effect in checking the crime wave. Police Commissioner McLaughlin of New York City, in a statement at the close of the year, said that in the greater city major crimes committed in 1926 were 60 per cent fewer than in 1925, and also fewer than in any year since 1922. A decrease was shown for every month on 1926, but particularly since July, when the Baumes laws went into effect, the Commissioner added.

On the other hand some district attorneys and a number of judges protested against the removal of judicial discretion in the sentencing of prisoners. The law providing for a life sentence in the case of fourth offenders was par-

ticularly criticized. It was pointed out that a man may be technically in the class of fourth offenders without deserving morally to be ranked with incurable criminals. The following editorial comment from the *New York World* (under date of November 19) sums up this type of criticism:

Under the law as it now stands the judge has no discretion. He must sentence to life imprisonment on a fourth conviction. It makes no difference whether the defendant is a petty offender or a violent thug. The first effect of such a law is to provoke strong dissent in the minds of district attorneys and judges who have to administer it. Another effect, already clearly indicated, is that no man will ever again plead guilty if he is a fourth offender. It would do him no good. He could expect no mercy in return for saving the State the trouble and expense of a trial. He will naturally gamble for an acquittal. It will be a good gamble too. It is hardly likely that the average New York jury would convict if there were any conceivable doubt or mitigating circumstance once it knew that conviction for a relatively minor offense meant life imprisonment. We already know from our experience in capital cases how difficult it is to persuade a modern jury to vote away the life of a man even if he is a murderer.

The law, it went on to say, "seems to suffer from two defects; being too severe, and therefore against the conscience of the community, it is very difficult to enforce; being mandatory, it deprives officers of the law of a wise discretion which must apparently always be part of a good system of law."

Appeals to test the validity of the Baumes laws were brought by a number of convicted prisoners and by District Attorney Dodd of Brooklyn. The District Attorney sought to compel County Judge Franklin Taylor to resentence for life imprisonment a prisoner who had been allowed to go through as a first offender. The Judge had at the time pointed out that inasmuch as the prisoner had entered a plea of guilty on the understanding that he would be sentenced as a first offender, the Court could not in all fairness break the bargain and sentence him as a fourth offender. Nonetheless, the Supreme Court Appellate Division upheld the District Attorney as against Judge Taylor. The case was scheduled to go to the Court of Appeals for final adjudication.

In the meantime the Baumes Crime Commission met and considered new changes in the State criminal code, and tentatively agreed upon three new provisions designed to reorganize the parole system. The 1926 Baumes laws were to stand untouched. The new proposals besides reorganizing the Parole Board would deprive the judge of the power to designate the prison at which the convict is to serve. See *PSYCHOLOGY* under *Abnormal Psychology*.

**CRIMINAL COURT.** INTERNATIONAL. See INTERNATIONAL CRIMINAL COURT.

**CRITICISM.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; SCANDINAVIAN LITERATURE; SPANISH LITERATURE; ETC.

**CROATIA, kro-a'-shi-a, AND SLAVONIA.** Since 1918 a province of the new state of Jugoslavia (q.v.); formerly a crownland of the Austro-Hungarian Empire, extending from the Adriatic Sea to the Danube River. Area, Jan. 31, 1921, 16,920 square miles; population at the same date, 2,739,593. Capital, Zagr b (also known as Agram), with a population in 1921 of 108,338.

**CROPS.** See AGRICULTURE; also special articles as COTTON, WHEAT, ETC.

**CROSS, MRS. GEORGE FREDERICK.** See CAMBRIDGE, ADA.

**CROSS COUNTRY RUNNING.** The national senior Amateur Athletic Union cross country run of 6¼ miles, held at Van Cortlandt Park, New York City, was won by Willie Ritola, Finnish-American A. C., for the fourth time, with Philop Osif, Haskell Institute, second, and Gus Moore, St. Bonaventure College, third. The team trophy for the third year in a row went to the Finnish-Americans, St. Bonaventure College finishing second and Dorchester Club, third. Ritola also captured the annual ten-mile run for the fourth time.

The intercollegiate cross country championship was won by Penn State College, W. J. Cox of Penn State being the individual victor. Cox's time for the six miles was 30 minutes, 4 seconds. The team scores of the first five colleges entered were: Penn State, 65; Syracuse, 68; Yale, 95; Harvard, 102; Massachusetts Institute of Technology, 145.

The National Amateur Athletic Union Marathon championship was won by C. Miles, his time being 2 hours, 25 minutes, 40½ seconds. A. Sternoos finished second and Clarence De Mar, winner of this event in 1922, 1923, and 1924 took third place. The Marathon held in connection with the Philadelphia Sesqui-centennial was won by De Mar with Michelson second and Wendling third. De Mar also captured the New York-to-Portchester Marathon.

**CRUISERS.** See VESSELS, NAVAL; NAVAL PROGRESS.

**CRUSTACEA.** See ZOÖLOGY.

**CUBA.** A republic of the West Indies consisting of the large island of the same name, the Isle of Pines, and small adjacent islands. Capital, Havana.

**AREA AND POPULATION.** The area is 44,164 square miles of which 41,634 are for the island of Cuba, 1180 for the Isle of Pines, and 2350 for the other islands. According to figures furnished by the Director of the Census Bureau the population of Cuba on April 30, 1926, was 3,350,026 inhabitants, distributed as follows:

	<i>Inhabitants</i>
Pinar del Rio .....	280,831
Habana .....	922,433
Matanzas .....	335,080
Santa Clara .....	719,263
Camagüey .....	245,042
Oriente .....	847,877

sitory immigration yearly consisting largely of Spanish laborers who return to Spain after the harvest season.

**EDUCATION.** Education is free and compulsory between the ages of six and 18. The public system was developed under American supervision after the passage of the Education Act of 1899. During 1924-25 the total number of school buildings in use was 3627, housing 6665 grades. The total school registration amounted to 388,349, and the average attendance was 71.83 per cent; 6898 regular teachers were employed, while 75 traveling teachers, working in 78 zones, served 174 groups of children who could not attend the regular schools. The enrollment in these groups was about 3900. In 73 night schools there were 5921 students. In the penal establishments of the republic there were five centres of primary instruction with an enrollment of 429. The 575 private schools, having a total of 1712 grades, employed 1956 teachers and had an enrollment of 38,064 pupils and an average attendance of 86.53 per cent. There is a special institute for advanced instruction in each province, and annexed to each is a normal school for the training of teachers. University instruction is provided by the University of Havana which was founded in 1721.

**PRODUCTION.** Sugar and tobacco are the staple products, but cacao, cereals, coffee, potatoes, and fruits are also raised. Cuba is the largest producer of sugar (q.v.) in the world, or nearly 4,000,000 tons per year. The agricultural activities of the inhabitants are consequently largely concentrated on this crop; 80 per cent of the sugar crop is shipped to the United States. The total production of the 1925-26 crop was 4,879,900 tons. A law was promulgated on May 3, 1926, controlling sugar production. This law forbids planters, during the years 1926, 1927, and 1928, to commence any operations of cutting or grinding sugarcane previous to the dates which the chief executive shall designate after consideration of the best interests of the industry and the climatic conditions of the various provinces. Planters grinding cane previous to the dates designated by the president shall be fined 5 pesos for every sack of sugar produced.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, the foreign trade of Cuba in 1925 amounted to \$648,145,812, a decline of 10.7 per cent from the \$725,238,077 in 1924. Imports accounted for \$295,040,125, an increase of 1 per cent, and ex-

#### CUBAN IMPORTATIONS

<i>Countries of origin</i>	<i>1924</i>	<i>1925</i>	<i>Increase or decrease</i>
United States .....	\$192,113,060	\$185,617,496	- \$6,495,564
Other American countries .....	26,585,989	29,340,894	+ 2,754,925
Germany .....	9,846,359	9,363,447	- 482,912
Spain .....	14,521,013	12,936,667	- 1,584,336
France .....	9,508,246	11,330,997	+ 1,822,751
United Kingdom .....	12,085,682	11,714,801	- 370,881
Other European countries .....	12,781,999	15,255,760	+ 2,473,761
All other countries .....	12,930,504	19,480,053	+ 6,549,549
<b>Total .....</b>	<b>\$290,372,782</b>	<b>\$295,040,125</b>	<b>+ \$4,667,343</b>

The city of Havana had 565,282 inhabitants, being the only city in the republic whose population was over 100,000. Other important cities are Cienfuegos, 72,919; Camagüey, 92,073; Manzanillo, 60,544; Santiago de Cuba, 73,800; Guantánamo, 52,598; Santa Clara, 69,200; and Sancti Spiritus, 86,418. There is a large tran-

ports which were \$353,105,887, decreased 18.8 per cent from the total of \$423,865,295 for 1924.

Cuban imports from the United States declined in 1925, by \$6,495,564 or 3.4 per cent. Other decreases were United Kingdom, 3.1 per cent; Germany, 5 per cent; and Spain, 11 per cent. The only gain was in the trade with

France, from which imports increased 19.1 per cent. The following table shows the value of Cuban exports in 1924 and 1925:

CUBAN EXPORTATIONS

Countries of destination	1924	1925	Increase or decrease
United States .....	\$862,264,908	\$262,613,978	- \$99,650,980
Other American countries .....	8,767,138	13,402,902	+ 4,635,764
Germany .....	1,712,724	2,187,053	+ 474,329
Spain .....	1,850,419	1,872,216	+ 591,797
France .....	4,248,900	5,848,345	+ 1,599,445
United Kingdom .....	49,261,954	56,222,039	+ 6,960,085
Other European countries .....	5,249,627	6,865,535	+ 1,615,908
All other countries .....	2,009,625	4,083,619	+ 2,083,994
<b>Total .....</b>	<b>\$434,865,295</b>	<b>\$353,105,687</b>	<b>+ \$81,759,608</b>

Cuban exports to the United States decreased 27.6 per cent, reflecting the low sugar prices, while increases were registered by France, 37.6 per cent; United Kingdom, 14.1 per cent; and Spain, 38.6 per cent. The increase in exports to the European countries was due to increased purchases of Cuban sugar during 1925.

**FINANCE.** The state budget for the fiscal year beginning July 1, 1926, as signed by the president on June 28, 1926, provides for estimated revenues of \$86,733,100 and expenditure of \$86,143,182. A summary of the chief items in the budget is given below:

<b>Revenues (including sums set aside for the fixed budget):</b>	
Customs revenue .....	\$44,611,000
Port fees and improvements .....	1,900,000
Consular revenue .....	1,600,000
Postal and telegraph revenue .....	3,198,500
Internal revenue .....	25,103,600
National lottery .....	4,820,000
Special loan tax .....	5,500,000
<b>Total revenue .....</b>	<b>86,733,100</b>
<b>Expenditures:</b>	
Fixed obligations .....	17,463,314
<b>Administration—</b>	
Executive offices .....	481,520
State department .....	1,842,693
Department of justice .....	373,020
Department of the interior .....	4,950,063
Treasury department .....	4,497,274
Treasury department, additional .....	3,981,304
Department of agriculture, commerce, and labor .....	1,086,899
Department of public works .....	4,096,280
Department of public instruction and fine arts .....	15,381,968
Department of sanitation and charities .....	5,446,259
War and navy department .....	12,482,948
Department of communications .....	5,423,697
Special veterans' fund .....	5,332,132
Port dredging .....	1,262,385
Special public works fund .....	2,041,426
<b>Total administration .....</b>	<b>68,679,868</b>
<b>Total expenditures .....</b>	<b>86,143,182</b>

A comparison of the budget of 1926-27 with that of 1925-26 discloses an increase in both expenditures and estimated receipts of approximately \$2,000,000.

**COMMUNICATIONS.** There were in Cuba 3246 miles of steam railways, all of which were owned and operated by private corporations. There were also 250 miles of electric railways, similarly owned and operated.

**GOVERNMENT.** Executive power is vested in a president and cabinet, and legislative power in a congress of two houses, viz., a senate with 24 members and a house of representatives with 116 members. President in 1926, Gen. Gerardo Machado.

**HISTORY.** The year was a comparatively uneventful one in Cuban history. In January a treaty was signed with the United States pro-

viding for the extension of the existing extradition treaty to crimes such as violations of the narcotic, customs, bankruptcy, and suspension of payment laws, as well as for certain immoral crimes. In March another treaty was signed between the two countries which was designed to prevent smuggling operations. It provided for the exchange of information regarding persons engaged in the violation of the other country's laws; for cooperation to prevent the illegal entry and departure of aliens, in the suppression of the narcotic trade, and in the prevention of smuggling of all kinds.

On April 10 a mild panic was caused by a run on the Royal Bank of Canada due to the publication in certain newspapers, hostile to foreign banking influences, of reports of its insolvency. Government officials and American and Canadian banks promptly came to the assistance of the institution and in a few days the banking situation had returned to normalcy.

A serious railway strike occurred in the month of May. The day after it broke out President Machado stated that it was called in violation of promises given to him by the railway brotherhood. He gave the strikers 72 hours in which to return to work. In the Havana district his proclamation had effect, but in the Camagney and Oriente districts the strike was prolonged throughout the entire month and the president was forced to proclaim martial law. Rioting and bomb-throwing were prevalent in these districts.

On November 17 Carlos Manuel de Cespedes resigned as secretary of state and became Cuban Minister at Paris. He was succeeded by Rafael Martinez Ortiz, who retired as Minister to Paris. On the same day Colonel Orestes Ferrara was appointed Cuban Ambassador to the United States to succeed Dr. Rafael Aballi, who resigned.

**CULTURES.** See ANTHROPOLOGY.

**CUMBERLAND PRESBYTERIAN CHURCH.** A branch of the Presbyterian Church, originally the Cumberland Presbytery of Kentucky. It was formed in 1810, when the so-called anti-revival party of the church objected to the admission into the ministry of men who were not up to the usual literary and theological standard, and also to the doctrine of fatality as taught in the third and tenth chapters of the Westminster Confession of Faith. Its chief strength was in the Southern States, in consequence of which it was barely saved from disunion during the slavery dispute at the time of the Civil War. This situation led to the establishment of the Colored Cumberland Presbyterian Church (see below). A General Assembly which meets annually is the supreme

judiciary. In 1926 the denomination comprised 11 synods and 64 presbyteries, and there were 1228 churches, 763 ministers, and a church membership of 65,876. The property was valued at \$2,951,065, not including \$500,000 endowment for education. There were 1400 Sunday schools, with an enrollment of 48,000. Missionary work was carried on chiefly among the Indians in the United States, but churches were also maintained in China. The educational work of the denomination was conducted by the Board of Education. The denomination maintains Bethel College and the Cumberland Presbyterian Theological Seminary, both at McKenzie, Tenn. The *Cumberland Presbyterian*, published at Nashville, is the official organ of the church. The 1926 National Meeting was held at Columbus, Miss., and it was planned to hold that of 1927 at Lakeland, Fla., May 19-21. The Rev. I. K. Floyd, Dallas, Texas, was moderator of the General Assembly, and the Rev. D. W. Fooks, Nashville, Tenn., was stated clerk and treasurer.

**CUMBERLAND PRESBYTERIAN CHURCH, COLORED.** A branch of the Cumberland Presbyterian Church which was legally set apart as a separate unity in 1869. In 1926 it comprised 18 presbyteries and four synods: Alabama, Kentucky, Tennessee, and Texas. In this year there were approximately 181 churches; 135 ministers; a church membership of 12,000; 190 Sunday schools, with a Sunday school enrollment of 9250. The 52d General Assembly of the Church was held at Huntsville, Ala., May 20-23, 1926. The Rev. D. S. Robinson served as moderator; Elder G. W. Sadler, Waco, Texas, was stated clerk. It was decided to hold the 53d General Assembly at Sweet Water, Tenn., on May 19, 1927. The *Cumberland Flag* is the official organ of the Church.

**CUMMINS, ALBERT BAIRD.** United States Senator from Iowa, died at Des Moines, Iowa, July 30. He was born near Carmichaels, Pa., Feb. 18, 1850, and was educated at Waynesburg College, later studying surveying and becoming assistant chief engineer of the Cincinnati, Richmond and Ft. Wayne Railroad. He studied law in Chicago, and in 1875 was admitted to the Illinois bar, practicing in Chicago from 1875-88 when he removed to Des Moines, Iowa. He served for a time as a railroad attorney in that city, and in 1888 was elected a member of the Iowa House of Representatives. In 1892 he was presidential elector-at-large, and from 1896-1900 he was a member of the Republican National Committee. He was a candidate for United States senator in 1894 and 1900, and was chairman of the Republican State Convention in 1892 and 1896. He was a delegate to the Republican National Conventions in 1892, 1896, 1900, 1904, and served as governor of Iowa for three terms from 1902-08. In the latter year he entered the Senate of the United States, being elected on November 24 to fill the unexpired term of Senator Allison, and he was reelected for the terms 1909-15, 1915-21, and 1921-27.

Senator Cummins was mentioned as a candidate for the presidency at the Republican National Convention in 1912, at which he denounced the action of the majority of the delegates in renominating Taft for whom he declared he would not vote because of the means used in bringing about his nomination. Nevertheless, he was not actually affiliated with the Progressive Party and the revolt organized by

Colonel Roosevelt, though he was in favor of many of the principles advocated by the ex-president. When Vice-President Coolidge became president in August, 1923, on the death of President Harding, Senator Cummins became president of the Senate and held that office until the election of Vice-President Dawes. He was chairman of the Senate Judiciary Committee and had been former chairman of the Senate Interstate Commerce Committee. At the Iowa Republican primary in the spring of 1926, Senator Cummins was defeated by S. W. Brookhart in the course of a bitter three-cornered fight, in which Senator Cummins endorsed every policy of the national administration excepting its attitude in the matter of farm relief.

Senator Cummins was active in political affairs from the time he removed to Iowa, and when he was elected to the Legislature he ran as an independent with the Democratic endorsement, opposing prohibition and contending that it would ruin the Republican Party in that State. He was active in preparing legislation that removed the State from the list of prohibition States and restored it to the Republican Party. In 1894 and in 1900, when unsuccessful as a candidate for the United States Senate, his defeat was accounted for by the hostility of the railroad interests, for in the State Legislature he had supported a measure to prevent railroads from escaping liability for injury to employees. Owing to his early training he was interested in legislation affecting railways, and he was chairman of the Senate Committee on Interstate Commerce in 1919 when the Transportation Act of 1920, or the Each-Cummins bill, was passed under which the roads were returned to private operation after the War period of government control. It was stated that, as a result of his authorship of the Transportation Act, the Republican "insurgent" group in the Senate insisted that he should be removed from the chairmanship of the Interstate Commerce Committee in 1923.

**CUNLIFFE-OWEN, PHILIP FREDERICK.** Editor and author, died in New York, June 30. He was born in London, Jan. 30, 1855, the son of Sir Philip and Lady Cunliffe-Owen, the latter being the Baroness von Reitzenstein. He was educated in England and at the University of Lausanne, Switzerland, and coming to America in 1889 became foreign editor of the *New York Tribune*, holding this position until 1898 when he became society editor. He held this position until 1913, when he severed his connection with the paper and devoted himself to miscellaneous writing. He possessed an intimate knowledge of European nobility, and contributed syndicate articles which were widely published under his pen name "La Marquise de Fontenoy." He also wrote extensively on European politics, which he knew intimately and accurately, using in addition to the pen name above that of "Ex-Attaché" and "Veteran Diplomat." He was honored by many nations, counting among his decorations the Star of Grand Officer of the Greek Order of the Redeemer, conferred by King Alexander of Greece; Officer of the Legion of Honor awarded him by President Poincaré of France; Commander of the Order of the British Empire, bestowed by King George; and other decorations such as Grand Officer (with star), Order of Charles III of Spain; that of Osmanieh, Turkey; Commander, Order of the Crown of Italy;

l'Instruction Publique, France; and Orange-Nassau, Netherlands. Few special writers were better known in the American press than Frederick Cunliffe-Owen, and he enjoyed the acquaintance of many distinguished diplomats and others.

**CURAÇAO**, kōō'rā-sā'ō. A Dutch colony in the West Indies consisting of two groups of islands about 500 miles apart, one of them comprising the islands of Curaçao, Bonaire, and Aruba, and the other consisting of the southern part of St. Martin (the northern part belongs to France), St. Eustache, and Saba. Area, 403 square miles; population, Dec. 31, 1924, 56,522, of whom 35,062 were on the island of Curaçao. The capital is Willemstad, on the island of Curaçao, with a population of 15,775. In 1924 there were 50,504 Roman Catholics, 5306 Protestants, and 543 Jews. The movement of population in 1924 was: Births, 1449; deaths, 1076; marriages, 323. In the same year there were 44 schools with 8037 pupils. The chief products of the colony are maize, beans, pulse, cattle, salt, and phosphate of lime. The chief industry is oil-refining. The crude oil is imported from Venezuela and Mexico. In 1924 the imports were valued at 51,189,100 guilders and the exports, 32,179,265 guilders; 4874 vessels of 7,703,852 net tons entered the ports of the colony in 1924. In 1926 the budget revenue was estimated at 2,357,600 guilders and the expenditure at 2,720,329 guilders. The difference is made up by the mother country. The colony is administered by a governor aided by a council and a colonial council, the members of both being nominated by the sovereign.

**CURRENCY.** See COINS, VALUE OF FOREIGN; FINANCIAL REVIEW; UNITED STATES.

**CUSHNY**, ARTHUR ROBERTSON. British pharmacologist, professor in materia medica and pharmacology at the University of Edinburgh, died at Edinburgh, February 25. He was born at Speymouth, Morayshire, in 1866, and was educated at the University of Aberdeen from which he was graduated in arts and medicine in 1889. He was Thompson fellow in the same year and studied at Berne and Strassburg. He was assistant to the professor of pharmacology at the latter university in 1892-93. In the latter year he went to the University of Michigan at Ann Arbor as professor of pharmacology, and in 1905 was called to the chair of pharmacology and materia medica at the University of London, University College. This place he filled until 1918 when he went to the University of Edinburgh. He was a member of the royal commission on whisky and other potable spirits in 1908. His publications include: *Textbook of Pharmacology and Therapeutics* (1916); *The Secretion of the Urine* (1917); in addition to many papers in the *Journal of Physiology* and elsewhere. He was one of the pioneer workers in this field, to develop the science of pharmacology as a branch of medical science out of what was previously known as materia medica, and his textbook served as a standard work of reference.

**CYCLING.** Cycling enjoyed a banner season in 1926, the New York and Newark Velodromes being crowded to capacity on many occasions when especially attractive programmes were offered. Reggie McNamara proved to be the outstanding rider of the year, winning three six-day races, one in Chicago and two in Madison

Square Garden, New York. In the first grind McNamara was teamed with Bobby Walthour, in the second with Franco Georgetti and in the third with Pietro Linari. McNamara and Linari established a new record of 304 stolen laps in the race they won in the Garden in December.

Willie Spencer captured the American professional sprint championship by scoring the most points in a series of races held at the Newark and New York Velodromes. Cecil Walker of Australia retained his all-around championship.

The American amateur championship went to William Coles of Brantford, Ontario, Canada, the first foreign rider to win this title. Edward Merkner of Chicago captured the amateur road championship.

**CYPRUS.** A British island, situated 40 miles from the coast of Asia Minor and 60 from the coast of Syria; the third largest island in the Mediterranean Sea. Area, 3584 square miles; population, according to the census of 1921 310,709, of whom 61,422 were Mohammedans. Capital, Nicosia, with a population of 18,461. In 1924 there were 821 elementary schools with 1151 teachers and an enrollment of 47,221, of whom 37,177 were Greek-Christian. With about one-third of the arable land under cultivation, agriculture forms the chief occupation of the people of the island. Forestry and the cultivation of the vine are rapidly taking an important place in the production of wealth on the island. Among the principal agricultural products are wheat, barley, oats, potatoes, linseed, cotton, animal products and fruit. Asbestos and copper are mined and exported in considerable quantities.

The merchandise imported in 1924 was valued at £1,243,356; exported, £1,271,339. The revenue for the same year was £593,318 and the expenditure, £535,870. The total shipping which entered and cleared amounted to 1,121,228 tons. The island was administered under a convention with Turkey by Great Britain after June 4, 1878, and was annexed by Great Britain at the outbreak of the war with Turkey on Nov. 5, 1914, and is under a high commissioner having the usual powers of a colonial governor, aided by an executive council and a legislative council of 24 members of whom 9 are office-holders and the remainder elected for five years, 12 of them by non-Mohammedan voters and three by Mohammedan voters. High Commissioner at the beginning of 1926, Sir Malcolm Stevenson.

**CYRENAICA.** A colony belonging to Italy on the north coast of Africa; until 1919 it formed a part of Libya; in that year for administrative and military purposes, Libya was divided up into Cyrenaica and Tripolitania (q.v.). The area is estimated at about 230,000 square miles; population, according to the census of 1921, about 220,000 natives, and 9719 Europeans (9402 Italians). Benghazi is the principal town with a population of 30,000. The chief occupation of the people is agriculture, although there are vast possibilities for cattle raising. Barley and wheat are the chief products. The former is the chief food of the people. In 1923 the imports were 70,811,245 lire and the exports 17,608,774 lire. The principal imports are cotton goods and sugar and the principal exports, sponges and barley (7,430,623 lire in 1924). The internal commerce consists mainly

of caravan trade between Benghazi and Wadi. For 1925-26 the revenue and expenditure were estimated at: Colonial revenue, 161,825,000 lire; civil expenditure, 53,000,000 lire; military expenditure, 108,825,000 lire. Governor at the beginning of 1926, Gen. Ernesto Mombelli (appointed May 4, 1924).

**CZECHO-SLOVAKIA**, *chěko-slovā'kia*. An eastern European republic, formed Oct. 28, 1918, out of the Slav regions of the old Austro-Hungarian Empire: formally designated a republic, Nov. 14, 1918; comprising the former Austro-Hungarian provinces of Bohemia and Moravia, Silesia, Slovakia, and Ruthenia, together with the portion of the Teschen district assigned to Czecho-Slovakia at the Ambassadors' Conference, July 28, 1920. Capital, Prague.

**AREA AND POPULATION.** The total area of Czecho-Slovakia is 54,207 square miles. The population at the census of Feb. 15, 1921, was 13,613,172. By race it was distributed as follows: Czecho-Slovaks, 8,760,937 (65.5 per cent); Germans, 3,123,568 (23.3 per cent); Magyars, 745,431 (5.5 per cent); Russians, 461,849 (3.4 per cent); Jews, 180,855 (1.3 per cent); Poles, 75,853 (0.5 per cent); others, 25,871 (0.2 per cent). There were besides 238,808 aliens. The Czecho-Slovaks and Germans made up almost exclusively the population of Bohemia and Moravia, and the Czecho-Slovaks about half of Silesia and more than two-thirds of Slovakia. The largest cities with their populations in 1921 are: Prague, 676,657; Brno, 221,758; Ostrava, 113,709; and Bratislava, 93,189. The majority of the people are Roman Catholics, who numbered 10,383,833 in 1921.

**EDUCATION.** Elementary instruction is compulsory between the ages of six and 14. In the school year 1923-24 there were 13,904 public and private elementary schools with 810,648 boys and 831,494 girls and 1665 public and private higher grade schools with 167,808 boys and 145,931 girls. During 1924-25 there were 386 secondary Latin and technical schools with 114,493 pupils; during the same year 1924-25 the public or state-aided schools of commerce numbered 157 with 28,524 pupils. There are four universities as follows: Prague (Czech), with 8160 students in 1923-24; Prague (German), with 3250 students; Brno (Czecho), with 1611 students; and Bratislava (Slovak), with 1057 students.

**PRODUCTION.** The Czecho-slovak soil is one of the richest in Europe, both as regards natural resources and industrial and agricultural development. Agriculture has reached a high stage and is intensively carried on. The area and yield of crops in 1924 and 1925 are shown in the following table from the *Statesman's Year Book* for 1926:

Crops	Area in acres		Yield in metric tons	
	1924	1925	1924	1925
Wheat . . . .	1,499,523	1,528,774	877,379	995,371
Rye . . . . .	2,078,107	2,093,087	1,136,323	1,355,575
Barley . . . .	1,678,213	1,715,272	970,696	1,130,702
Oats . . . . .	2,091,898	2,070,671	1,204,157	1,169,179
Potatoes . . .	1,567,972	1,580,402	6,514,326	7,803,728
Sugar-beet . .	747,955	759,731	8,374,443	.....
Malze . . . .	888,593	887,335	260,092	278,812

The number of livestock at the census of 1921 was: Cattle, 4,370,765; horses, 590,687; pigs, 2,052,687; sheep, 985,526; and goats, 1,220,752.

In 1924, the fruits yield was 239,348 tons of apples, 151,918 tons of pears, and 324,952 tons of stone fruit. Mineral products include soft and hard coal, iron, graphite, gold, silver, lead, rock salt, and garnets. The coal production in 1924 was 20,507,178 tons of lignite and 14,359,401 tons of anthracite. On Jan. 1, 1925, there were 332 coal mines, employing 117,953 persons. In 1923, there were 11,316 factories distributed as follows: Textile mills, 2004; glass works and stone factories, 2064; food production factories, 1855; furniture and bent wood manufacture, 1261; machine factories, 812; metal manufactures, 848; paper mills, 348; and chemical factories, 633.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, the figures for the foreign trade of Czecho-Slovakia in 1925 showed a substantial increase over the preceding year, and a favorable balance of \$36,200,000 as compared with \$35,200,000. In view of unfavorable conditions during the last quarter of the year in the foreign markets upon which Czecho-Slovakia is principally dependent, the total trade turnover of \$1,091,790,000 as compared with \$986,940,000 for 1924 was particularly favorable. The country was considerably handicapped in building up a favorable trade balance during 1925 by the low world price for sugar, an extremely important factor in its foreign trade.

Imports in 1925 were valued at a total of \$527,800,000 and showed a gain of \$51,900,000 or 11 per cent, over 1924. All classes of goods shared in this increase except cotton goods and yarn, livestock, and fats and greases, which diminished. Similarly in the number of pieces imported there was an increase of 23 per cent. The largest single item of imports was cotton, amounting in 1925 to \$83,900,000, or 17 per cent over 1924. The source of imports is obscured by the fact that Czecho-Slovakia is an inland country, with no ocean ports; as much of its commerce has to be carried on indirectly, imports are credited to Germany and other neighboring countries through which the business is transacted. In the official statistics for 1924, Germany is credited with 35 per cent of the imports, Austria, with 8 per cent, Italy, with 6 per cent, and the United States, with 5.6 per cent.

Exports in 1925 were valued at \$564,000,000, an increase of 10 per cent over 1924. All classes of goods shared in the increase, except sugar, cotton, fuels, machinery and apparatus, and fruits and vegetables. The weight of exports diminished by 2 per cent while the number of pieces increased by 8 per cent. The largest single item of exports is cotton goods and yarn, valued in 1925 at \$95,100,000 as against \$75,200,000 in 1924, an increase of 26 per cent. Sugar exports were valued at \$69,700,000 as against \$73,000,000 in 1924. In 1925 the chief customers of Czecho-Slovakia in order of importance were Germany, Austria, Great Britain, Hungary, and other adjacent countries. The United States ranked seventh.

**FINANCE.** The total revenue estimate for the year 1926 was 10,085,752 crowns and the expenditure estimate, 10,070,271 crowns, as compared with 9,301,334 crowns and 9,573,586 crowns, respectively, in 1925. The internal debt on June 30, 1926, according to figures given out by the ministry of finance, amounted to 22,628,-



710,078 paper crowns and its foreign loans totaled 6,962,479,078 paper crowns. In addition there is the debt imposed by the treaties of peace, amounting to 1,401,280,330 paper crowns, which brings the total to 30,992,470,183 paper crowns (approximately \$915,500,000). During 1925 and the first half of 1926 considerable progress was made in the financial consolidation of the republic. The major operations of the government toward this end have followed three lines—the refunding of short-term treasury certificates, the funding of the debt to the United States, and the conversion of the old Austro-Hungarian railway obligations.

One of the chief problems facing the successive ministers of finance has been the maturing short-term treasury certificates, which on Jan. 1, 1925, totaled 5,096,650,000 crowns. With the refunding of 715,915,000 crowns of these certificates, this debt will have disappeared, partly through repayment and partly through substitution of three-year and five-year issues. The funding of the debt to the United States in the amount of \$115,000,000 was accomplished in October, 1925. Immediately following the funding, a loan of \$25,000,000 was floated through an American banking house, the proceeds of which were used principally to pay off short-term treasury certificates. In February, 1926, an internal bond issue of 1,900,000,000 crowns was floated. Half of the amount was composed of new bonds issued in exchange for securities of the old Austro-Hungarian State railways and represented the major portion of the amount assessed to the government of Czecho-Slovakia for the railways at the time of the formation of the republic; the balance consisted of subscriptions of cash or short-term treasury certificates, as a result of the requirement by the ministry of finance that bonds be purchased to the amount of those presented for conversion.

COMMUNICATIONS. On Jan. 1, 1924, there were 8497 miles of railway line, of which 5670 miles were owned by the state. Returns of the Czecho-slovak railways for 1925 showed a surplus of 191,000,000 crowns (about \$5,730,000) of receipts over expenditures. Receipts for the year totaled 4,169,000,000 crowns, and expenditures 3,978,000,000 crowns. This improvement is attributed to an increased capacity of the workers, a better system of economy, and increased passenger and freight traffic. Freight traffic for the period January–November 30, 1925, showed 5,024,070 cars loaded, in comparison with 4,859,321 cars in 1924. In 1925, in addition to the Bustehrad and Ustec-Teplice railways, 48 local lines were taken over by the government. Besides this expense the government has made large disbursements for repairing roadbeds and replacing ties, as it has hitherto been impossible to replace properly the property damaged during and since the war. Orders were given during the year for the electrification of the Wilson Station in Prague, and part of the main railroad line from the suburbs to the centre of the city through this station. Sixteen locomotives were ordered for express trains, with a maximum speed of 90 kilometers per hour. The first section of the road to be electrified will be about 50 kilometers in length.

GOVERNMENT. According to the constitution passed by the National Assembly, Feb. 29, 1920, executive power is vested in a president, elected for seven years by the two chambers in joint

session, who appoints and recalls his ministers; and legislative power in a senate of 150 members and a chamber of deputies of 296 members, the former elected by all citizens over the age of 26 and the latter by all citizens over the age of 21. The principle of proportional representation is applied. President, Thomas G. Masaryk (elected May 28, 1920). The ministry (appointed Mar. 18, 1926) was as follows: Prime Minister and Minister of the Interior, M. Cerny; Foreign Affairs, Dr. Beneš; Finance, Dr. Englis; Commerce, M. Peroutka; Public Works, M. Roubik; Railways, M. Riha; Health, M. Prochazka; Social Welfare, M. Schiessel; Justice and Food Supplies, M. Haussmann; Agriculture and Unification of Laws, M. Slavik; Education, Professor Kremer; National Defense, General Syrový; Posts and Telegraphs, M. Fatka; for Slovakia, Dr. Kallay. See ARBITRATION, INTERNATIONAL.

### HISTORY

FOREIGN AFFAIRS. Early in the year in an article published in the *New York Times*, Foreign Minister Beneš stated that his country was on very satisfactory terms with all European countries with the exception of Hungary. He said that Czecho-Slovakia would "do everything in its power to bring about a final and peaceful adjustment of its relations with this state and to regulate the question of economic cooperation by means of a commercial treaty." He also hoped for political cooperation in time. This statement evidently referred to a previous article which referred to a Central European Locarno and promised that the Czechs were ready to approve a revision of the Treaty of Trianon and give back certain territories which were inhabited solely by Hungarians. The same inspired article said that the Czechs were ready to accept any other settlement of the monarchical question than the accession of Archduke Otto as King of Hungary.

An event of far reaching importance in Central European affairs was the signing of the Austro-Czecho-Slovak Treaty of Arbitration on March 5, at Vienna, amid profuse expressions of amity and friendship. The provisions of the treaty made arbitration practically obligatory in every case. A permanent arbitration board was created with right of appeal from this body to the court at The Hague. Disputes of a political nature, if not settled in the regular diplomatic channels, had to be submitted to The Hague, from which a joint appeal could be taken to the Permanent Court of International Justice. The treaty was to be in force for ten years and was renewable for another ten years.

CABINET CHANGES. On March 17, the Svehla cabinet resigned because of its failure to solve satisfactorily the questions of pay for state employees and the additional tax on grain. Svehla had resigned in November, 1925, because of the results of the parliamentary elections but had been requested to keep the cabinet post when others were unable to form a new one. The cabinet as formed to succeed that of Svehla is given above.

THE FASCIST MOVEMENT. During May a demonstration was held in Slovakia in support of the Fascist movement which has grown to considerable proportions not only in Slovakia but in the Czech land as well. A liberal organization was formed among the Czechs to fight the



new organization and the government threatened to take repressive measures if necessary. The Slovak Fascists demand autonomy for Slovakia and the recognition of the Catholic faith. They promised to cooperate with the Czech Fascists if the latter stayed out of Slovakia. The Czech movement was largely anti-German and anti-Jewish and aimed to rid the country of the factory owners of these nationalities. They also advocated a new constitution with a much stronger executive head, probably similar to that of Mussolini in Italy.

**THE SESSION OF PARLIAMENT.** After a stormy session Parliament adjourned on June 26, with a record of much important legislation behind it. A new protective tariff was levied which increased the duties on agricultural products; the wages of state employees were raised; and a "clergy emoluments" bill was passed. The session was probably the stormiest that the country had witnessed since it became independent, and new party alignments were brought about. The Socialist coalition was broken up and the control of the parliament passed into the hands of the Agrarian and Populist parties supported by the German Agrarians and the Christian Socialist groups. Racial lines were thus broken up and the economic interests of the members came to the fore and dominated the political field.

**DAHOMY, dà-hó'mí.** A French colony on the west coast of Africa between Togoland on the west, the British possessions of Lagos and Nigeria on the east, and the French military territories on the north. It is a subdivision of the colony of French West Africa (q.v.). The colony has only about 70 miles of coast, but opens out northwards into a wide hinterland. Area, 42,460 square miles; population, according to the census of 1921, 842,243, of whom 538 were Europeans. The chief centre of trade and the seat of the government is Porto Novo with a population of about 20,000. The population is of pure negro blood, and belongs to the Ewe family. They are very industrious and engage mainly in agriculture. In the coastal region they raise potatoes, corn, manioc, and yams. In the central provinces, cotton culture has been introduced. The forests contain oil palms of commercial importance. The chief exports are palm oil and palm kernels. The local budget for 1924 was 11,160,000 francs.

**DAIRYING.** The dairy industry in the United States was generally prosperous throughout the year. The prices received for dairy products were somewhat lower than in 1925 during most of the year, but lower feed prices tended to offset the lower prices received for dairy products, leaving an encouraging spread between feed costs and milk receipts. The Western butter producers were not in quite as favorable a position as Eastern fluid milk producers as butter prices were relatively lower. Higher prices for cows and increases in the number of heifer calves raised indicated the dairymen's feelings.

The trend toward a decreased production of milk tended to offset the effect of large stored surpluses which were so serious at the end of 1924 and beginning of 1925. The 1926 season also opened with a relatively large carry over. The threat of foreign shipments of butter which was so prominent at the end of 1925 was almost entirely absent until the fall of 1926. In April the tariff on butter was raised from 8 to

12 cents per pound, and after that time butter imports were of no significance in the American market until late in the year when a price difference of approximately 18 cents per pound on December 1 between New York and Copenhagen prices favored the importation of considerable amounts.

The long-time trend in dairy production was toward an increased net importation except for the interruption during the War period, and since 1920 this trend had been resumed. During the year 1926 the exports of all dairy products except butter showed more or less decrease as compared with 1925, and those of 1925 were lighter than for 1924. The exports of milk and cream were relatively insignificant, but there were 32,317,862 pounds of sweetened condensed milk and 63,224,162 pounds of evaporated milk exported during the first 10 months of 1926 as compared with 35,187,596 and 94,830,074 pounds, the amounts exported in the corresponding period of 1925. Cheese exports, which were relatively small, decreased from 8 million pounds in the 10-months period of 1925 to 3 million in 1926, and malted milk showed a decrease of somewhat less than 20 per cent. On the other hand, butter exports increased slightly from 4,560,047 pounds in 1925 to 4,677,221 pounds in 1926. A large portion of the unsweetened evaporated milk exported by the United States, 20 million pounds, went to the United Kingdom, but most of the other dairy products were sent to other than European countries.

The largest imports of dairy products were those of cheese, which consisted mainly of special foreign types. The cheese imported increased from 42,243,279 in the first 10 months of 1925 to 57,284,571 pounds in 1926. The largest increase from any single country was that of over 2 million pounds from Italy. For a number of years cheese imports from Italy had shown considerable increases.

The amount of butter imported decreased from approximately 6 million to less than 5 million pounds, probably due somewhat to the increase in the duty from 8 to 12 cents in May, 1926, and also to the fact that the foreign prices were sufficiently maintained so that butter could not be profitably imported. The imports of milk powder decreased from 4,669,568 pounds to 3,685,042 pounds. The condensed and evaporated milk also decreased from approximately 4,600,000 pounds to less than 2 million pounds. These trends indicated a general tendency for the dairy industry of the United States to be on a self-sustaining basis without any particular efforts for the production of dairy products for export or the importation of any considerable amounts except in case of special types of cheese.

**INTERNATIONAL CONDITIONS.** The low price of butter in the importing countries of the world during the late fall and early winter of 1926 was undoubtedly the most significant event in the foreign dairy situation. The prices in European markets fell below those in the United States by fully 50 per cent more than the tariff of 12 cents per pound. With the season of heavy production approaching in New Zealand and Australia the outlook was most unfavorable in those countries.

The two greatest butter-importing countries of the world are Great Britain and Germany. The statistics show that the imports of butter and cheese into these countries were no greater

than in the previous year. The greater part of the price decline was traceable to developments unfavorably affecting British industry and purchasing power. The British butter markets had just begun to recover from the effects of the accumulated supplies resulting from the seamen's strike last year when the strike of the coal miners began to affect the buying power of the industrial classes.

The German imports of butter during the first eight months of 1926 were 158,540,000 pounds, as compared with 164,332,000 pounds for the corresponding period of 1925. Increased domestic supplies were considered largely responsible for the lessened importation before July, but during this month heavy imports were made in anticipation of the increase in the tariff from 2.43 to 3.24 cents per pound on August 1. The August receipts, however, did not appear to be greatly affected by the increased tariff, though some reduction was evident. The large exports of Danish butter which usually go mainly to Great Britain were in part diverted to Germany during the year, and the greater part of the Danish exports of cheese were also absorbed in Germany.

The production of butter in Russia, which has been steadily increasing since the War, did not reach the amounts anticipated, probably because of the low price in the importing countries. Nevertheless, Great Britain and Germany together received 43,695,000 pounds of Russian butter during the first nine months of 1926 as compared with 41,792,000 pounds during the same period of 1925.

Exports of butter from the countries of the southern hemisphere, which is of course heaviest in our fall and winter months, were starting somewhat stronger during October and November than in the preceding year. In New Zealand dairying appeared to be offering stiff competition to the frozen meat business and was forcing it out in many sections.

There had been a very great decline in the exports of condensed and evaporated milk from the United States for several years. Various factors had an influence in this respect. The United States was showing a general tendency to export smaller quantities of dairy products. A German tariff of six cents per pound tended to reduce exports to that market, and the British market, which formerly absorbed the largest amounts of the United States concentrated milks of any of the countries, had undergone a distinct change from whole condensed to condensed skim milk, which had been received in enormous quantities from the Netherlands. The establishment of butterfat standards for whole condensed milk not in conformity with the American product was mainly responsible for the stimulus to the condensed skim milk trade.

**RESEARCH.** Several of the State agricultural experiment stations conducted investigations during the year relating to the physiology of milk secretion. The Georgia station found that cooling the cows by dampening muslin blankets was favorable to milk production during the heat of the summer. At Missouri the fat percentage of the milk produced was related to the environmental temperature. Between 70 and 30° F. the fat percentage increased approximately 0.2 per cent for each 10° reduction in temperature. At Illinois the total solids content of milk

was related to the environmental temperature as increases in the temperature lowered the solids content of the milk without appreciably affecting the total production. At Tennessee the milk production of cows freshening in July, October, November, December, January, and February was higher than that of cows freshening during the other months of the year. A study of the relation between the secretion of the various constituents of the milk at Illinois Station showed that fat and protein were intimately related, but water and fat and water and protein appeared to be largely independent. The Iowa station found that during the oestrous period the milk production of the cows in the station herd was lowered. Milk production during the lactation period was found at Illinois to drop off at a regular rate, but the rate of decrease was larger as the stage of pregnancy advanced. The same station found that considerable amounts of oil in the feed materially increased the fat percentage of the milk.

A number of agricultural experiment stations, Alabama, Michigan, Iowa, Ohio, New York Cornell and Wisconsin, and the U. S. Department of Agriculture showed that milk production was influenced by the supply of calcium and phosphorus in the ration and the ability of the animal to assimilate these substances.

From experimental work conducted for a number of years at the New York Geneva station an atlas was prepared which contained 16 microphotographs of methylene blue preparations of market milk and cream which were treated in various ways. By the use of this atlas it is possible to determine the previous treatment of samples of milk and cream; for instance, pasteurized and raw milk may be differentiated as well as milk which was handled in poorly cleaned utensils or which was improperly cooled.

Several agricultural colleges made studies of the effect of various ingredients in ice cream on the freezing and the quality of the finished product. It was generally found that cane sugar, milk sugar, aging, and neutralizing lower the freezing point, while the use of gelatins or other ice cream improvers added materially to the standing-up qualities. They also gave body and texture and improved the flavor of ice cream having a low percentage of solids.

W. E. Skinner, secretary and general manager of the National Dairy Exposition for 15 years, resigned this position.

**NECROLOGY.** Prof. William Alonzo Stocking, jr., (q.v.) head of the dairy department at Cornell University from 1909 to 1923, died on Feb. 3, 1926. Professor Stocking was well known as one of the early workers in dairy bacteriology.

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*Tests* (Milwaukee, 1926); C. Thom and W. W. Fisk, *The Book of Cheese* (New York, 1925, rev. ed.); W. W. Fisk, *Fancy Cheese* (Milwaukee, 1925); O. F. Hunziker, *Condensed Milk and Milk Powder* (La Grange, 1926, 4th edition, rewritten and enlarged).

See also **FOOD AND NUTRITION**.

**DALFERNITE**. See **CHEMISTRY**, under **MINERALOGICAL CHEMISTRY**.

**DALMATIA**. A province in Jugo-Slavia; a crownland of Austria until the downfall of the Dual Monarchy in 1918. It extends from Bosnia and Herzegovina west to the Adriatic Sea. Area, 4916 square miles; population, according to the census of Jan. 31, 1921, 621,429. Capital, Zara, with a population in 1921, of 18,060.

**DAMS**. During the year a number of notable structures were in process of construction in order to supply power for hydroelectric plants and for processes of irrigation. As usual, some of the work of the United States Bureau of

by the Alabama Power Company, amounting to a capacity of 70,800,000,000 cubic feet, aroused interest in the consideration of the relative size of other artificial reservoirs. A tabulation was prepared which gave the largest artificial reservoir in the world as that of the St. Maurice River in the Province of Quebec. This with the other large reservoirs in order of magnitude has a capacity as follows:

Reservoir	Capacity, cu. ft.
Gouin, St. Maurice River, Quebec . . .	160,000,000,000
Elephant Butte, New Mexico . . . . .	114,911,000,000
Assuan, Nile River, Egypt . . . . .	91,800,000,000
Roosevelt, Salt River, Arizona . . . . .	71,321,000,000
Martin Dam, Tallapoosa River, Alabama	70,800,000,000

When the American Falls reservoir in Idaho is enlarged to its ultimate capacity by the construction of the dam to its full height it will have a capacity of 74,052,000,000 cubic feet.

#### DAMS BUILT BY U. S. BUREAU OF RECLAMATION

Name	Project	State	Type	Purpose	Max. Ht. Length	Volume	Cost	Year com- pleted
* Hole-in-the-Ground Arrowrock	Owyhee Boise	Oregon Idaho	Concrete arch Rubble conc. arch grav.	Storage do.	355 349 1,100	405,000 585,130	\$6,011,815 4,327,710	.... 1915
Shoshone	Shoshone	Wyoming	Rubble conc. arch	do.	328 200	78,576	1,439,135	1910
Elephant Butte	Rio Grande	New Mexico	Rubble conc. grav.	do.	306 1,155	618,536	4,149,180	1916
Roosevelt	Salt River	Arizona	Masonry arch, grav.	do.	280 1,080	342,000	3,890,187	1911
Tieton	Yakima	Washington	Earth and rockfill, core	do.	222 905	1,995,000	3,756,256	1925
Pathfinder	North Platte	Wyoming	Masonry arch	do.	218 432	60,210	1,755,306	1922
Black Canyon	Boise	Idaho	Concrete masonry	Diversi <sup>on</sup>	183 1,040	79,855	1,243,889	1924
* Gibson	Sun River	Montana	Concrete arch	Storage	179 900	167,595	2,666,109	1928
McKay	Umatilla	Oregon	Gravel fill, conc.	do.	160 2,600	2,313,000	2,298,823	1926
East Park	Orland	California	Conc. arch gravity	do.	139 250	12,200	196,120	1910
Sun River Diver- sion	Sun River	Montana	Arched conc. ma- sonry	Diversi <sup>on</sup>	132 212	6,200	149,366	1915
Hubbart	Flathead	Montana	Conc. variable ra- dius arch	Storage	131 500	17,371	362,653	1923
* Echo	Salt Lake Basin	Utah	Earthfill	do.	130 1,900	1,461,000	1,645,000	....
Lahontan	Newlands	Nevada	Earth and gravel fill	do.	124 1,400	770,000	1,324,782	1915
Belle Fourche	Belle Fourche	South Dakota	Earth dam	do.	122 6,200	1,600,000	1,230,922	1910
* Stony Gorge	Orland	California	Hollow reinforced conc.	do.	120 828	38,000	973,530	1928
* Spanish Springs	Newlands	Nevada	Earth and rockfill	do.	115 2,400	1,000,000	1,250,080	...
* Guernsey	North Platte	Wyoming	Gravel and rockfill	do.	100 580	400,000	1,791,000	....
Cold Springs	Umatilla	Oregon	Earth and rockfill	do.	98 3,600	789,500	443,665	1908
Minidoka	Minidoka	Idaho	Rockfill, conc. core	Storage and Divers <sup>on</sup> .	86 937	242,500	625,841	1909
Gerber	Klamath	Oregon	Concrete arch	Storage	85 478	11,900	336,241	1925
Clear Creek	Yakima	Washington	Conc. arch, grav. abut.	do.	84 404	4,100	136,187	1918
Sherburne Lakes	Milk River	Montana	Earthfill	do.	83 1,133	201,500	837,816	1921
* American Falls	Minidoka	Idaho	Concrete grav. and earthfill	do.	78 4,971	300,800	2,990,000	1927
Willow Creek	Sun River	Montana	Earth embankment	do.	73 525	196,400	285,537	1911
Strawberry	Strawberry	Utah	Earthfill, conc. core	do.	72 489	108,415	271,724	1913
Upper Deer Flat	Boise	Idaho	Earthfill	do.	70 4,000	1,190,275	325,675	1908
Keechelus	Yakima	Washington	Rolled earth and gravelfill	do.	70 6,500	639,000	1,573,148	1917
Willwood	Shoshone	Wyoming	Conc. ogee weir	Diversi <sup>on</sup>	70 320	22,119	352,948	1924
Jackson Lake	Minidoka	Wyoming	Conc. gate sec. and earth	Storage	67 4,450	345,400	1,131,025	1919
Conconully	Okanogan	Washington	Hydraulic earth fill	do.	67 1,000	354,242	324,784	1910
Minatare	North Platte	Nebraska	Earthfill	do.	63 3,760	685,177	522,588	1915
Kachess	Yakima	Washington	Rolled earth and gravelfill	do.	63 1,400	193,300	460,603	1912

\* Construction not commenced Dec. 31, 1926.

\* Under construction Dec. 31, 1926.

Reclamation was particularly notable, while the various power companies had under way important structures and new designs were being prepared to meet the demands for water power which can be transformed through generating plants into electric power transmitted over considerable distances.

The enormous artificial lake created by the Martin Dam across the Tallapoosa River, built

**STEVENSON CREEK EXPERIMENTAL ARCH DAM**. During the year, announcement was made of the results of tests on the Stevenson Creek Experimental arch dam in California, which has been discussed in earlier issues of the **YEAR BOOK**. (See **YEAR BOOK** for 1923, 1924 and 1925.) This dam was completed early in June, the last concrete being placed June 4 and the last wooden frame being removed June 10. The dam was con-

sidered a satisfactory test specimen, accurate in shape and dimensions and free from objectionable defects. During the year a complete set of deformation, strain, and slide measurements were made on varied loads up to those produced by a head of 60 feet of water, the height of the crest of the dam. The only signs of failure in the structure were two vertical cracks in the centre line of the dam, one extending from the lowest point upward some 13 feet and the other from the highest point downward some 19 feet. The top crack, however, did not permit water to seep through. Its maximum width was about .003 inch, and the lower crack was still smaller. The measurements made enabled the engineers to determine the load carried, due to the horizontal thrust in the horizontal elements, for all parts of the dam, under the 60-foot head. The engineers also estimated the load carried by the bending of the horizontal elements at certain places, and particularly determined the load carried by the bending of the vertical elements. After the series of measurements were made the reservoir was emptied, but both surfaces of the dam were kept wet by sprinkler pipes. While a detailed consideration of the field records was being made, the engineering committee was engaged in studying the advisability and nature of further tests on the dam.

**AMERICAN FALLS DAM.** During the year the American Falls dam on Snake River in Idaho, designed to store water for supplementary irrigation of Twin Falls, Minidoka, and other tracts, and for irrigation of new areas north of Minidoka, was practically completed and the storage of water began in October. This dam, the total cost of which was about \$1,600,000, was 4756 feet in length and 60 feet high, being composed of concrete overfall and plane gravity sections and earth embankments. A storage capacity of 1,700,000 acre-feet was provided.

**COOLIDGE DAM.** On December 2 the contract was awarded for the Coolidge Dam to be built across the Gila River near the San Carlos Indian Reservation to irrigate land near Florence and Casa Grande in Arizona. This dam would provide a storage of about 1,300,000 acre-feet of water and was to be of a new type called "multiple-dome," and was 249 feet in height and about 600 feet in length, composed of three-arch spans, curved both horizontally and vertically, the spans being 180 feet centre to centre.

**STONY GORGE DAM.** Toward the end of 1926 authority was granted for the awarding of the contract for the construction of the Stony Gorge Dam on the Orland Project, California, by the Bureau of Reclamation, United States Department of the Interior. This dam was to cost \$518,904 and to be of reinforced concrete, of the buttress type, with a reinforced concrete face slab. The main outlet works consisted of two metal pipes through the dam, each controlled by a hydraulically operated sluice gate near its up-stream end and a balanced needle valve at its down-stream end. A secondary outlet consisted of a small needle valve and gate valve. In the central part of the dam the spillway was located, controlled by three 30 X 30-foot gates.

**OHIO RIVER DAMS.** In the scheme of improving the Ohio River for navigation and providing a minimum channel depth of nine feet for the entire length of 908 miles, the United States

Corps of Engineers had under way during the year a number of dams to raise the water level and to provide by locks navigable passes. Up to the end of 1926, 692 miles of the river had been made available for navigation and about \$76,000,000 had been spent, out of a total estimated cost of \$105,000,000. The portion of the project under way in 1926 involved construction of one fixed and 51 movable dams, with navigation locks 110 by 600 feet at each dam. The navigable passes varied in width from 600 to 1248 feet and were closed by wickets of the Chanoine type. Between Emsworth, Pa., and Louisville, Ky., at the end of 1926, 38 dams had been completed and were in operation except for minor details in a few cases. At Louisville a dam was under construction in connection with the development of electric power, while below that point three dams were completed and in operation and eight were under construction.

**MARTIN DAM.** During the year there was completed the Martin Dam and power house at Cherokee Bluffs, a storage power project on the Tallapoosa River, about 42 miles north of Montgomery, Ala. This dam formed a reservoir 39,400 acres in area, and, with the power house of the head-wall type, located at the dam, was one of the notable operations in the hydroelectric field.

**CONOWINGO DAM.** Work was begun in May, 1926, on a 4800-foot dam and power house near the mouth of the Susquehanna River, designed to provide for seven 54,000 h.p. generating units, or a total of 378,000 h.p. in the power house. This was being constructed by the Susquehanna Power Company, a subsidiary of the Philadelphia Electric Company, and, in addition to the capacity mentioned, provision was made for four more similar units. At the end of 1926 the excavation and concrete work for the west abutment were practically finished and, in the power house section, the excavation had progressed to approximately 80 per cent completion, and 13 per cent of the concrete had been poured. About 15 per cent of the tail race had been excavated, while at the east end of the dam 65 per cent of the excavation had been accomplished and 75 per cent of the concrete scheduled for the first construction step had been poured. See WATER-WORKS AND PURIFICATION.

**EGUZON DAM.** A notable hydro-electric station, designed for supplying motive power for the electrified portions of the Paris-Orléans Railway, was built near Eguzon on the River Creuse, in France. It involved a dam and power house capable of providing 8000 kw. of electrical energy continually during nine months of the year, 18,000 kw. during six months, and 28,000 kw. during three months. The dam was curved in plan, with a thickness of wall varying from five meters (16.4 feet) at the crest to 54 meters (177.17 feet) at the lowest point of the foundation. The upstream face had a batter of 1 in 1.205, save at the top where the face was curved up almost to the vertical. The greatest height of the dam was 61.1 meters (200.44 feet) and it formed a reservoir containing 54,000,000 cubic meters (71,000,000 cubic yards), or approximately 11,880,000,000 gallons, of water. At each end of the dam there is an outlet tower comprising two openings three meters wide and seven meters high and governed by stop valves, and on the downstream side of the gates the

two openings unite to form a pressure pipe 4.24 meters in internal diameter. There are two spillways, one at the right bank and one on the left, with automatic weirs and appropriate sluice openings. The power house proper, at the foot of the dam, had an equipment in 1926 of five main turbines, each of 15,000 h.p. and each coupled direct to a 12,500 k.v.a., three-phase, 10,500-foot, 50-cycle alternator.

**DANISH LITERATURE.** See SCANDINAVIAN LITERATURE.

**DANZIG.** A free city, which, with its surrounding territory, was established by the Treaty of Versailles in 1919. It was formerly a part of the German Empire. Area, about 754 square miles; population, Aug. 24, 1924, 386,000. The administrative district of the city of Danzig had a population of 207,100. The city is the chief outlet for the commerce of Poland and continues to maintain its century-old position of being the leading grain port of the Baltic. Shipping is the chief industry, manufacturing being engaged in largely for local consumption. Only relatively insignificant amounts of the outgoing traffic in 1925 represented goods of strictly Danzig origin, such as sugar and manufactures of amber and bakelite; nevertheless the very considerable decline in this purely local export trade was a large contributor to Danzig's economic ills in 1925. The chief exports in 1925 were lumber, coal, grain, and sugar. Although the tonnage of goods shipped from Danzig always far exceeds that of goods received, this disparity was even more marked in 1925. Whereas the shipments in 1924 totaled 1,636,485 metric tons and the receipts 738,072 tons, in 1925 the shipments advanced to 2,031,969 and the receipts dropped to 690,779 tons. For the first time in the post war period, however, the aggregate tonnage of cargo, incoming and outgoing, through the port of Danzig exceeded the pre-war traffic, as seen in the accompanying table:

GROWTH OF POST WAR TRAFFIC THROUGH  
THE PORT OF DANZIG  
[In metric tons]

Year	Cargo shipped	Cargo received	Total
1912. . . . .	1,311,757	1,141,455	2,453,212
1919. . . . .	72,235	174,000	246,235
1920. . . . .	138,216	1,700,000	1,838,216
1921. . . . .	378,952	1,026,420	1,405,372
1922. . . . .	504,411	466,287	970,698
1923. . . . .	1,062,864	654,929	1,717,793
1924. . . . .	1,636,485	738,072	2,374,557
1925. . . . .	2,031,969	690,779	2,722,748

In 1924 3312 vessels of 1,634,970 tons entered and 3330 vessels of 1,648,050 tons cleared the port. The budget for the fiscal year Apr. 1, 1926, to Mar. 31, 1927, as passed by the Danzig Volkstag on May 5, 1926, balanced at 117,857,-180 gulden, and shows an increase of 4,147,450 gulden over the 1925-26 budget of 113,709,-730 gulden, which was exceeded by actual disbursements. (1 gulden equals \$0.193.) The government of the free city is in the hands of a High Commissioner appointed by the League of Nations. Its constitution, approved by the League May 11, 1922, provides for a legislative assembly of 120 members elected for four years, a senate consisting of 20 members, and a president and vice-president. The senate is the highest authority in the state and holds secret ses-

sions. High Commissioner at the beginning of 1926, Dr. van Hamel (appointed Feb. 22, 1926).

**DARE, VIRGINIA.** ANNIVERSARY OF BIRTH OF. See CELEBRATIONS.

**DARTMOUTH COLLEGE.** A non-sectarian institution of higher education at Hanover, N. H.; founded in 1769. The 1926 fall session had an enrollment of 2247 students, most of whom were working for the regular college degree, the exceptions being 11 graduate students; 36 in the Medical School; 14 in the Thayer School; 81 in the Tuck School; and 1 unclassified student. There were 200 members on the faculty. The productive funds amounted to \$8,500,000. The library contained 221,000 volumes. At the 1926 fall meeting the Board of Trustees authorized the construction of a new biological laboratory and of two new dormitories, to be begun in 1927. During the year a library estimated to cost \$1,000,000 was begun, and an athletic field house was constructed. President, Ernest Martin Hopkins, A.M., Litt.D., LL.D.

**DAVID, SIR SASSOON.** Indian cotton merchant, died in Bombay, India, September 27. He was born in Bombay, Dec. 11, 1849, the son of Jacob Isaac David, a prominent member of the Jewish community of that city and one of the first Jews to come to Bombay. He was educated at Elphinstone College and Bombay University, where he received the degree of B.A., and joining the firm of E. D. Sassoon and Company, doing business in China, represented that firm for some years in China as partner and also in Bombay. In 1885 he founded his own firm and was agent of the David and Standard Mills, and the leading cotton yarn merchant of Bombay. He was chairman of the Millowners' Association, 1904-05, and sheriff of Bombay in 1905, in which year he was knighted. He was for several years a government nominee on the Bombay Municipal Corporation and the Standing Committee, and was president of the Bombay Municipal Corporation, 1921-22. Although making his headquarters in Bombay he had firms in China, was the director of several public companies, and on the committee of several charitable associations. In 1911 he was created a baronet, and in 1922 a Knight Commander of the Order of the Star of India. He was the founder and chairman of the Bank of India.

**DAVIS, CHARLES BELMONT.** American dramatic editor, died at Nashville, N. C., on December 9. He was born at Philadelphia, Pa., on January 24, 1866, and was educated at Lehigh, graduating in 1887. He then became a reporter on the *New York World*, and it was while serving in this capacity that he published his first short story, *A Friend of the Family*. He was for a time fiction editor of *Collier's Weekly*, and had charge of one of the short-story contests directed by that magazine. From 1893 to 1897, Mr. Davis was United States Consul at Florence, Italy, and in 1900 he became manager of the Weber and Fields Music Hall. He also served on one of the missions sent to England during the World War, and in 1923 he joined the staff of the *New York Herald Tribune* as dramatic editor. He was the author of many short stories appearing in various magazines; some of them were later collected and published in book form. Some of his works were the following: *The Stage Door*; *Tales of the Town*; *The Borderland of Society*; *The Lodger*

*Overhead; Nothing A Year; In Another Moment; and Her Own Sort.*

**DAVIS**, Rt. Rev. JAMES J., Bishop of the Catholic Diocese of Davenport, Iowa, died on December 2, at Davenport, Ia. He was born in Ireland on Nov. 17, 1852, and began his studies for the Catholic priesthood at Done-magin, Ireland, and, completing the classical course in Carmelite College, entered St. Patrick's Seminary in Carlow. Here he was ordained on June 21, 1873. He first went to the Diocese of Dubuque, I., and served in various parishes. On Nov. 30, 1904, he was consecrated Coadjutor Bishop of Davenport and Titular Bishop of Milopotamus. When the Rt. Rev. Henry Cosgrove died in December 1906, Bishop Davis succeeded to the See of Davenport.

**DAWES PLAN.** The third year of the experts' plan for the payment of reparations by Germany started on September 1. In commenting upon the completion of the second year of the plan Seymour Parker Gilbert, the Agent-General for Reparation Payments stated: "With the payment this morning of 45,000,000 gold marks by the German Railway Company, Germany has made payment of the full annuity of 1,220,000,000 gold marks provided for in the second year of the experts' plan, except for a small balance of about 8,095,000 gold marks on account of the transport tax, which does not become due until Sept. 21, 1926. To-day's payment by the German Railway Company represents the balance due on Sept. 1, 1926, on account of the second year's interest on its reparations bonds. Germany is thus faithfully performing her obligations and has made punctually the payments falling due the second year of the plan."

Mr. Gilbert's statement itemized the second year's annuity payments as follows: Budget, 250,000,000 marks; Railway bonds (interest), 595,000,000 marks; Transport Tax, 241,950,000 marks; and debentures, 125,000,000 marks. Owing to the unexpended balance remaining from the first annuity year and the interest earned on cash deposits, the total sum available for transfer to allied treasuries during the year was 1,269,412,000 marks. Of this sum 415,000,000 marks was transferred in foreign currencies, chiefly through French and British reparation recovery acts. For the first time, 65,000,000 marks was transferred in actual cash. By mark payments, chiefly consisting of deliveries in kind, to the value of 656,800,000 marks, plus 86,000,000 marks for the army of occupation, 760,000,000 marks were transferred. This constituted 65 per cent of the total amount transferred, which was 1,175,000,000 marks.

On September 2, the United States Treasury announced the receipt of \$5,900,000 from Mr. Gilbert, representing the annual payment due the United States for the liquidation of the American wartime claims against Germany. This was the first cash payment received by the United States under the operation of the Dawes Plan. Up to that date the treasury had been credited with approximately \$14,000,000 by Germany on account of the cost of the American army of occupation and the United States is to receive about \$12,000,000 a year until the \$250,000,000 obligation is settled. Under-Secretary Winston stated that the payments for army occupation costs were in addition to 2½ per cent of annual reparations set aside to pay American claims.

As a result of an agreement between Mr. Gilbert and Dr. Reinhold, German Finance Minister, at the beginning of September, the Dawes Plan was modified so that Germany, on account of the supplemental yield of her controlled revenues, would pay 300,000,000 marks in cash in the year 1926-27 instead of 500,000,000 during the two years beginning Sept. 19, 1927. This arrangement presented an obvious advantage, giving the Reich's financially embarrassed creditors, particularly France, a large additional amount of money immediately. It also served to emphasize the German government's resolve to carry out the plan so far as is compatible with German national solvency. Mr. Gilbert, after consultations with Dr. Reinhold, fixed the annuities for the three ensuing years at 1,500,000,000 marks, 1,750,000,000 marks, and 2,500,000,000 marks, the last figure being the normal annual payment foreseen for that year by the experts. Mr. Gilbert said that the new arrangement "will reduce the danger of an undue strain on German economy and facilitate the even flow of deliveries and payments and will increase by a substantial amount the funds available for deliveries in kind during the third annuity year."

**DEAD SEA**, WATER OF. See CHEMISTRY under *Mineralogical Chemistry*.

**DEATH.** See ZOOLOGY.

**DEATH RATE.** See VITAL STATISTICS.

**DEBS**, EUGENE VICTOR. American Socialist leader, died on October 20, at Elmhurst, Ill. He was born on Nov. 5, 1855, at Terre Haute, Indiana. At the age of 14 Debs worked in the railroad shops of Terre Haute, and two years later he became a fireman on the Terre Haute and Indianapolis Railroad. After three years of this life he went to work as a grocery salesman. His education was mostly from his own reading, but even while engaged in firing an engine at night he would sleep but half the day so as to attend school in the afternoons. From his poor earnings he bought an encyclopedia on instalments and began to study grammar and literature. The revolutionary history of the United States, as well as that of France, fired his imagination and he set himself to emulate their leading figures. Feeling keenly his lack of instruction, he sought by every means in his power to remedy the defect. He was particularly interested in the orations of "men who spoke before their time," and in his mind, Patrick Henry and Thomas Paine were set up as idols. His interest in labor problems caused him to leave the grocery store in 1875 and enter the local lodge of the Brotherhood of Locomotive Firemen as a charter member. He had previously taken part in the organization of the Brotherhood of Railway Brakemen, later the Brotherhood of Railroad Trainmen. His political career actually began with his election as City Clerk of Terre Haute for four years from 1879. In 1885 he was elected to the Indiana Legislature. In 1880 Debs was elected Grand Secretary and Treasurer of the Brotherhood of Locomotive Firemen, and editor of the *Firemen's Magazine*. This work occupied him until, in 1893, he organized and became first president of the American Railway Union. In the following year the strike against the Great Northern Railway was considered a great victory for industrial unionism. Two months later occurred the Pullman dispute, and to add strength to the strikers,

Debs called out other workers and tied up 20 railroads. This strike was marked by intervention on the part of President Cleveland, who sent Federal troops to Illinois to protect the mails and interstate commerce and keep order and check bloodshed in spite of the protests of Governor Altgeld. Debs was arrested on a charge of conspiracy but was released, being subsequently arrested and later given a six months prison sentence for failure to obey an injunction.

It was while serving this sentence in Woodstock, Ill., prison, that Debs became a Socialist. He read *Das Kapital*, by Marx, but while the new belief was forming he supported William Jennings Bryan in 1896. It was in the following year that he announced himself boldly as a Socialist, and in that year he took a prominent part in formation of the Social-Democratic Party. Soon after this Debs became a prolific writer and a startling lecturer. In 1900 he was nominated for President, and also in 1904, when he polled four times as many votes as he had received in 1901. In 1908 he was again a candidate, and his votes represented double those cast for him on the previous occasion. In 1912 he ran again, but was once more unsuccessful. In 1920 he was once more a presidential candidate and received about a million votes although at the time he was in an Atlanta cell serving a 10-year sentence for his criticism of the Government's part in the war, in a speech made at Canton, Ohio, in 1918. In December, 1921, his sentence was commuted by President Harding. After his release from prison, Debs was not very active, although he went to New York in 1925 to campaign for the Socialist candidate for mayor. His work on behalf of the political prisoners, whose champion he had become, together with his advancing years, broke down his health, and in April, 1926, he went to Bermuda. On his return he spent almost all of his time at his home at Terre Haute, until in September he had to enter a sanitarium, at Elmhurst, Ill., where he died.

#### DECLARATION OF INDEPENDENCE.

See CELEBRATIONS.

**DECOURCELLE, PIERRE.** French author and dramatist, died in Paris, October 9. He was born at Paris, January 25, 1856, the son of Adrien Decourcelle, the dramatist, and was educated at the Lycée Henri IV. He married a daughter of Edmond About and at an early age devoted himself to drama, his first play, a comedy, being *Grain le Beauté*. In 1883 he brought out *Fond de Sac*, and in 1887, *L'Abbé Constantin*. Among his tragedies, many of which were based on novels were *L'As de trèfle* (1883); *La Charbonnière* (1884); and *Gigolette* (1893). *Fanfan, ou les deux Gosses*, produced in 1889, was translated into many languages and held a French record of 751 consecutive performances. Decourcelle collaborated with various authors and was one of the most prolific novelists and dramatists in France. He was also a collector of books, manuscripts, and objects of art, and was treasurer of the Commission de la Société des Auteurs et Compositeurs Dramatiques.

**DELAWARE.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 223,003. The estimated population on July 1, 1926, was 240,000. The capital is Dover.

**AGRICULTURE.** The following table gives the

acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	138,000	4,278,000	\$2,738,000
	1925	137,000	5,069,000	3,295,000
Wheat	1926	103,000	2,060,000	2,678,000
	1925	102,000	1,887,000	2,736,000
Hay	1926	80,000	118,000 *	2,158,000
	1925	79,000	112,000 "	2,192,000
Potatoes	1926	6,000	516,000	722,000
	1925	6,000	384,000	768,000
Sweet potatoes	1926	9,000	1,251,000	813,000
	1925	8,000	880,000	1,672,000

\* tons.

**MINERAL PRODUCTION.** While relatively of small magnitude the State's production of minerals rose considerably in 1924, to a total value of \$512,105, as against \$416,074 for 1923. Stone was produced in the amount in 1924 of 93,130 short tons; in 1923, of 84,440 short tons; and to the value in 1924 of \$243,279, and in 1923 of \$132,157. Clay products, next in value, attained in 1924 a total of \$235,555, as against \$249,804 in 1923. Sand and gravel were also produced.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$4,039,022. Their rate per capita was \$17.29, as against \$16.18 in 1924. Their total included \$1,235,597 for education, apportioned to minor State divisions. Expenses totaling \$368,633 for interest on debt and \$2,932,399 for permanent improvements, added to payments for maintenance and operation of State departments made the total of State payments \$7,339,994. For highways was expended the sum of \$2,924,754, of which \$205,079 was for maintenance and \$2,719,675 for construction.

Revenue receipts of the State were \$7,315,426, or \$31.31 per capita. They exceeded by \$2,907,771 the total payments except those for permanent improvements, and were \$24,568 less than the total with these included. Property and special taxes formed 46.9 per cent of the revenue in 1925, as against 47.2 per cent in 1924 and 28.1 per cent in 1917. Their per capita rate was \$14.69 in 1925, \$16.29 in 1924 and \$2.11 in 1917. Earnings of the general departments and compensation for officials' services furnished 4.3 per cent of the 1925 revenue. Business and non-business licenses furnished 19.6 per cent.

The net indebtedness of the State on June 30, 1925, was \$7,311,869, or \$31.29 per capita, as against \$28.41 per capita in 1924 and \$4.02 in 1917. A bond issue of about \$1,000,000 was made in 1925 for highway purposes. The assessed valuation of property subject to tax was \$242,318,711. The State tax levy was \$605,797, or \$2.59 per capita.

**TRANSPORTATION.** The total mileage of railroad line under operation at the end of 1925 was 332.29. No new construction of line was reported in 1926.

**EDUCATION.** There ceased during the year to be any occupants of teaching positions in the State other than holders of the regular teacher's certificate, according to the State superintendent of public instruction, as quoted in the *Journal of the National Education Association*. Previously for many years a portion of the teaching personnel had held provisional certificates. A draft of a new school tax law was prepared by the State tax commissioner, who in an explana-



tory letter asserted that no attempt had been made in the draft to provide for an increase or decrease of the school income, and that the purpose was to bring the law abreast of development subsequent to enactment of the existing statute. The State Education Association reported 100 per cent enrollment of white teachers outside the city of Wilmington in its organization.

There were enrolled in the public schools of the State in the school year 1925-1926, 39,297 pupils, of whom 19,046 were boys and 19,651 were girls. The average daily school attendance was 32,858. Of the enrollment, 33,590 was in elementary schools, and of this 27,796 was enrollment of white children, and 5794 of colored. High school enrollment was 5707, divided as follows: White, 5374; colored, 333. The 1433 teachers in the state were thus classified: White, 1226; colored, 207. The average salaries ranged from \$1916 for white high school teachers in the city of Wilmington to \$885 for colored elementary school teachers in the rural special school districts. The year's school expenditure amounted to \$2,832,323. This total did not include \$774,726 of capital outlay for new buildings, met by bond issue.

**CHARITIES AND CORRECTIONS.** Activities are under a State Health and Welfare Commission established in 1923 and a State Board of Charities. Among the State institutions are a Home for the Feeble Minded and a system of industrial schools for whites and for the colored.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Robert G. Houston, Republican, was reelected to the U. S. House of Representatives for the 70th Congress. Howard M. Ward was elected State treasurer. Edward Baker auditor and James G. Shaw insurance commissioner; all were Republicans. The proposal to amend the State constitution so as to abolish the grand jury as an agency in the finding of indictments, this duty being placed in the hands of the State's prosecuting officers in the grand jury's stead, was submitted to popular vote. It was rejected. The punishment of the whipping post was applied to several persons convicted of larceny in February, and advocates of this form of punishment, still retained on the penal statutes of the State, asserted that there had resulted from its application a reduction in the local cost of burglary insurance. An unruly mob at Georgetown, excited against a negro there on trial, threatened to break into the court house February 8, and was checked by militia.

**OFFICERS.** Governor, R. P. Robinson; Lieutenant-Governor, J. H. Anderson; Secretary of State, A. R. Benson; Treasurer, Thomas S. Fouracre; Auditor, J. M. Harrington; Attorney-General, C. A. Southerland; Commissioner of Insurance, Dr. Horace M. Hollis; State Bank Commissioner, Harold W. Horsey.

**JUDICIARY:** Chancellor, Josiah O. Wolcott; Chief Justice, James Pennewill; Associate Judges, Richard S. Rodney (at large), Herbert L. Rice, William Watson Harrington, and Charles S. Richards.

**DEL MAR, ALEXANDER.** American mining engineer and author, died at Little Falls, N. Y., July 1. He was born in New York, Aug. 9, 1830, and after studying at private schools, the Madrid School of Mines, and New York University, edited the *Daily American Times* in 1854; *Hunt's Merchants' Magazine* in 1860; the *Social Science Review* which he founded in 1864; and

the *Financial Chronicle* in 1865. In the latter year he organized and was director of the United States Bureau of Commerce, Navigation, Emigration, and Statistics which later became the United States Department of Commerce and Labor. He was a delegate to the International Congress at Turin, Italy, in 1866, to The Hague in 1868, and to St. Petersburg in 1872. He was mining commissioner to the United States Monetary Commission in 1876, and was later president of the Latin-American Chamber of Commerce.

Del Mar was a prolific author, covering a wide field of economic, ancient and modern history, and was an authority on money, publishing many volumes in which the history of money in various countries was discussed. His publications include: *Gold Money and Paper Money* (1862); *The National Banking System* (1865); *The History of Precious Metals* (1880); *The History of Money in Ancient Countries* (1884); *The Science of Money* (1885); *Money and Civilization* (1886); *The History of Money in America* (1899); *Ancient Britain* (1900); *Worship of Augustus Cæsar* (1900); *Middle Ages Revisited* (1900); *History of Money in the Netherlands* (1903); *Messiah, a History of the Colonization of Asia Minor, Egypt, and Europe from the Orient* (1907); *Chronology of America from Pytheas of Marseilles to the Death of Charles V* (1922); and numerous other works. He was a member of many learned societies including: Société de Statistique de Paris, Société Astronomique de France, Ligue de L'Enseignement de Bruxelles, Columbiina Society of Palos, Spain, London Chamber of Commerce, Philadelphia Philosophical Society, International Statistical Congress, etc.

**DE MOLAY, ORDER OF.** A non-sectarian secret organization for boys between the ages of 16 and 21, founded in 1919 by Frank S. Land, at Kansas City, Mo., and named in honor of Jacques De Molay, the last military Grand Master of the Knights Templar. There are chapters in the United States, Canada, Mexico, the Panama Canal Zone, Porto Rico, the Philippine Islands, Italy, and France. The members are pledged to promote the public school system, reverence women, honor their parents, and to observe certain obligatory days. The order is governed by a Grand Council of Freemasons and annual meetings are held. During 1926, state and interstate athletic competition was greatly increased. Cash prizes are given by the Grand Council to the chapters whose members show the best records in the advancement of civic affairs. There are regional camps at Manistee, Mich., Spirit Lake, Ia., and Hollister, Mo., and a national camp at Bear Lake, Col. In November, 1926, there were 1578 chapters, a membership of 212,000, and about 100,000 De Molays outgrown active membership. Frank S. Land was Grand Scribe of the Order, with headquarters at 1201 Federal Reserve Bank Building, Kansas City, Mo.

**DEMONSTRATION WORK.** See AGRICULTURAL EXTENSION WORK.

**DENISON UNIVERSITY.** A co-educational Baptist institution of higher education at Granville, Ohio; founded in 1830. The enrollment for the autumn of 1926 was 913, of whom 465 were men and 448 women. The faculty numbered 60. The income for the year was \$3,200,000; and the library contained 60,000 volumes. Acting President, Bunyan Spencer, D.D.



**DENMARK.** The smallest of the three Scandinavian states; comprising the peninsula of Jutland with its adjacent islands in the Baltic; the Faroe Islands; a part of Schleswig as a result of the plebiscite of 1920 under the terms of the Treaty of Versailles; and Greenland (q.v.), the only colony or possession. Iceland is a free sovereign state, but united to Denmark in the person of the King of Denmark who is also head of the government of Iceland (q.v.). Capital, Copenhagen.

**AREA AND POPULATION.** The area is 16,604 square miles, excluding the Faroe Islands, which have a population of 540 square miles; population, according to the census of Nov. 5, 1925, 3,419,656. North Schleswig, which voted in the plebiscite of 1920 to form a part of Denmark, has an area of 1538 square miles and a population in 1925 of 175,531. The islands in the Baltic had an area of 5133 square miles and a population of 1,266,137 in 1925. Of the population more than 95 per cent were born in Denmark. The movement of population in 1924 was: Births, 73,834; deaths, 38,107; marriages, 26,471; emigrants (chiefly to the United States and Canada), 6319. The population of Copenhagen in 1925 was 586,000, with suburbs, 729,214. Other large cities with their 1925 populations are Aarhus, 75,271; Odense, 52,208; Aalborg, 42,461; Horsens, 28,064; and Randers, 26,817.

**EDUCATION.** Elementary education is free and compulsory between the ages of 7 and 14. In 1924 there were 4499 lower schools, of which 34 were maintained by the government, 3834 by the local communities and 637 by private agencies. The total number of pupils in the schools was 500,270. For higher education there is the University of Copenhagen with about 120 professors and teachers and about 4000 students. There are also many popular high schools, agricultural schools, training schools for teachers, and other technical and special institutions.

**PRODUCTION.** An investigation to determine the economic status of Denmark as compared with the pre-war years was completed early in 1926 and revealed the wealth of the nation as about 20½ billion gold crowns or twice as much as before the War. The accompanying statistics show how this result was obtained:

<i>Assets</i>	<i>Millions of gold crowns</i>
Properties .....	10,800
Stocks on hand, inventories, machines, animals, equipment, etc. ....	10,000
Merchant marine and fishing fleet .....	175
Gold reserves .....	210
Railways .....	350
Harbors .....	150
Telegraphs and telephones .....	140
War materials .....	150
Antiques, etc. ....	100
Foreign assets .....	600
<b>Total .....</b>	<b>22,175</b>
<i>Liabilities</i>	<i>Millions of gold crowns</i>
Foreign debts .....	1,645
Denmark's national wealth .....	20,530
<b>Total .....</b>	<b>22,175</b>

In the distribution of the productive capital of the country by industries the transportation system accounts for approximately 800,000,000 crowns. While there are no accurate data on

the amount of capital invested in agricultural activities the value of the total equipment is estimated at three billion crowns. If the value of forestry and fisheries is included, the total capital devoted to the production of raw materials amounts to seven billion crowns, and a similar amount represents the total value for industry and trade. The accompanying table from the *Statesman's Year Book* for 1926 shows the acreage and production of the principal crops in 1924:

<i>Crops</i>	<i>Area 1924 Acres</i>	<i>Production 1924 Tons</i>
Wheat .....	148,765	159,581
Rye .....	765,550	265,021
Barley .....	745,012	745,029
Oats .....	1,140,945	917,465
Mixed grain .....	573,478	479,030
Potatoes .....	177,271	742,200

On July 15, 1925, there were in Denmark 536,000 horses, 2,758,000 head of cattle, 261,000 sheep, 2,517,000 swine, and 20,039,000 hens. The total value of the fish caught in 1924 was £2,463,000.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, a survey of Danish foreign trade for 1925 showed that imports totaled 2,095,000,000 crowns (about \$442,673,500) and exports 1,789,000,000 crowns (about \$378,015,700). As a source for Danish imports, the United States, which heretofore has been third in importance, reached second place in 1925, exchanging places with Great Britain. Germany, as in preceding years, held first place. The relative position of the principal countries that supply Denmark's importations are shown in the accompanying table, in which "other countries" in 1925 comprised, in order of importance, Norway, Belgium, Argentina, Brazil, China, Canada, India, Finland, and the Dutch East Indies.

#### DANISH IMPORTS, BY LEADING COUNTRIES OF ORIGIN [Values in million Danish crowns \*]

	1924		1925	
<i>Country of origin</i>	<i>Amount</i>	<i>Per cent of total</i>	<i>Amount</i>	<i>Per cent of total</i>
Germany .....	649	27	583	28
United States .....	294	12	350	17
Great Britain .....	446	19	307	14
Sweden .....	129	19	114	20
Netherlands .....	74		75	
Rumania .....	52		75	
Russia and the Baltic countries .....	96		73	
France .....	81	23	72	21
Other countries .....	545		446	
<b>Total .....</b>	<b>2,366</b>	<b>100</b>	<b>2,095</b>	<b>100</b>

\* The Danish crown had an exchange value in 1924, of \$0.1672; in 1925, of \$0.2113.

It was evident that Germany, though holding its position as the leading source for Danish imports, had nevertheless lost in percentage of the total, though not so heavily as Great Britain. It was also evident that the losses sustained by these two principal countries as purveyors to Denmark had been taken up by the rest of continental Europe and by the United States as increased percentages in about equal degree. The expansion in imports from the United States was most marked in the cases of wheat flour, grains, and other foodstuffs. The figures

of Danish export distribution show that Great Britain maintained its position as the largest buyer of Danish products, purchases consisting primarily of bacon, butter and eggs. In 1925 these shipments reached a value of 1,081,000,000 crowns, or approximately 60 per cent of the total exports. Germany took second place and Sweden third, as a market for Danish products. Shipments to the United States in 1925 reached a value of only 9,000,000 crowns.

**FINANCE.** The accompanying table from the *Statesman's Year Book* for 1926 is an abstract of the budget estimates for the fiscal year 1926-27:

<i>Current revenue</i>		<i>Kroner</i>
Balance of domain revenues	.....	742,067
Balance of State undertaking	.....	18,904,288
Interest (net)	.....	4,145,944
Balance of funds, etc.	.....	631,052
Direct and indirect taxes	.....	390,563,172
Balance of lotteries	.....	2,511,502
Separate revenues	.....	3,408,426
<b>Total current revenue</b>	.....	<b>381,613,741</b>
<i>Current expenditure</i>		<i>Kroner</i>
Civil list and appanages	.....	1,222,000
Rigsdag	.....	2,600,000
Council of State	.....	508,350
Ministry of Foreign Affairs	.....	6,464,264
Ministry of Ecclesiastical Affairs	.....	4,595,806
Ministry of Public Instruction	.....	71,208,234
Ministry of Justice	.....	19,002,687
Ministry of Interior	.....	73,801,262
Ministry of Labor	.....	57,084,486
Ministry of Agriculture	.....	13,293,111
Ministry of War	.....	39,279,243
Ministry of Marine	.....	24,527,882
Ministry of Finance	.....	27,823,576
Ministry of Public Works	.....	7,793,177
Ministry of Industry, Commerce, and Navigation	.....	5,439,716
Greenland	.....	208,226
Pensions	.....	15,388,529
<b>Total current expenditure</b>	.....	<b>369,689,999</b>

**COMMUNICATIONS.** The year 1925 was a difficult year for the Danish merchant marine. Freight received amounted to about \$53,750,000 or \$14,250,000 less than in 1924. During the year the tonnage was increased about 4 per cent. This increase corresponded approximately to the amount of tonnage which was laid up (47 vessels of 58,224 registered tons). In 1924, 29,031 vessels of 9,633,000 tons entered the Danish ports from foreign countries and 30,284 vessels of 9,631,000 tons cleared. In 1925, there were 3148 miles of railway open for traffic of which 1505 miles belonged to the state. In the other lines the government has a greater or less interest through the ownership of part of the capital stock.

**GOVERNMENT.** Executive power is vested in the king who acts through a responsible ministry, but who has no power to declare war or conclude peace without the consent of the Rigsdag, or parliament; and the legislative power is vested in the Rigsdag, which is composed of the Folketing (lower house), and the Landsting (upper house), the former having 149 members, of whom 117 are elected on the basis of proportional representation, and the latter having 75 members, elected indirectly by the voters for the lower house. King in 1926, Christian X (born Sept. 26, 1870), who succeeded his father, Frederik VIII, on May 14, 1912. The ministry as formed on April 23, 1924, was as follows: Premier and Minister of Industry, Commerce, and Navigation, Th. Stauning; Foreign Affairs, Count C. P. Moltke; Interior, C. N. Hauge; Jus-

tice, K. K. Steincke; Defense, L. D. Rasmussen; Education, Mrs. Nina Bang; Ecclesiastical Affairs, N. P. Dahl; Agriculture, K. M. Bording; Public Works, J. Friis-Skotte; Finance, C. V. Bramsnaes; Labor F. J. Borgbjerg.

**HISTORY.** The Socialist ministry during the month of March forced through the final reading of the Disarmament Bill, which would virtually abolish the Danish army and navy, with the exception of a few frontier guards and some small coastal vessels. The bill had been first introduced at the end of 1925 and was bitterly attacked in the Folketing by the Conservative and Liberal Parties as being unwarranted in light of the conditions existing in Europe. The measure as passed in its final reading had a bare majority of one vote (71 to 70).

On June 2, the Danish government concluded a treaty of conciliation and arbitration with Germany at Berlin. The treaty stated that in all cases arising the matters at hand should be settled by an arbitration court specifically selected for the case. A contingent provision said that in case Germany joined the Permanent Court at The Hague or was admitted to the League of Nations, disputes could be referred to The Hague after a notice given by either party. The treaty went into effect in July for a period of 10 years, after which it was to remain in force for five-year periods unless either signatory party gave notice of annulment. Another article of the treaty provided for the calling upon the King of Sweden and chairman of the arbitration commission in case both parties were unable to agree upon a mutually satisfactory chairman.

A similar treaty was signed with Poland, providing for the peaceful settlement of all disputes. A permanent mediation committee was formulated, the decisions of which, however, were not necessarily binding. In the event of dissatisfaction, an appeal could be made for a special arbitration board, the decision of which would be binding on both contracting parties. Arbitration conventions of a like nature were also signed and ratified between Denmark and Sweden and Denmark and Finland during the year.

In the autumn there were unconfirmed rumors in the press of an attempt on the part of Danish Schleswig to break away from the mother country. Premier Stauning was bitterly assailed by the agricultural interests because of the policy of heavy taxation he was compelled to carry out to attempt to balance the budget. One or two persons were arrested on the charge of inciting to mutiny and a mass meeting was held on October 10, which had the avowed purpose of appealing to the League of Nations for a consideration of the condition of Schleswig as well as for an autonomous government. The Danish government sent heavy reinforcements to the police of the community but no untoward incidents or disturbances occurred.

In the last month of the year the Stauning ministry resigned as a result of the parliamentary elections of December 2. The premier took this action without waiting for the Folketing to meet. The changes in party alignment were not very great but were sufficient to overthrow the Socialist bloc. The Conservatives and Liberals gained two seats each, and the Socialists and Radicals lost two seats each. On December 10, M. Madsen-Mygdal was appointed Prime Min-

ister, and depended upon a coalition of the Liberals and Conservatives for his position.

**DENVER, UNIVERSITY OF.** An institution of higher education at Denver, Colorado; founded in 1864. The enrollment for 1926-27 was 3544, distributed as follows: College of Liberal Arts, 1038; School of Pharmacy, 39; School of Engineering, 149; School of Commerce, 717; School of Dentistry, 235; City College (Extension Department), 570; School of Law, 85; Summer Session (1926), 811. The faculty had 190 members. The amount of the productive funds was \$1,726,830. The library contained 50,000 volumes. Chancellor, Heber Harper, D.D., LL.D.

**DE PAUW UNIVERSITY.** A co-educational institution of higher education at Greencastle, Ind., under the auspices of the Methodist Episcopal Church; founded in 1837. For the fall session of 1926, 1704 students were enrolled, of whom 925 were men and 879 were women. Of this number 1539 were registered in the College of Liberal Arts and 165 in the School of Music. In the summer session of 1926 there were 226 students. The College of Liberal Arts had a faculty of 88 and the School of Music of 15. During the year 11 new faculty members were appointed, as follows: An assistant professor in botany; an associate professor in psychology; an assistant professor in zoology; an assistant professor in political science; an instructor in English literature, an instructor in English composition, an instructor in Spanish, an instructor in mathematics, an instructor in public speaking, an instructor in German, and a dean of men and assistant in the Department of Education. The productive funds of the university were \$4,154,515.67, the income from the endowment was \$110,382.10, and the current income for the year, \$209,508.38. A gift of \$12,500 was received by the will of Mrs. Grace K. Maring, of Muncie, Ind. The building of a new dormitory for boys, Longden Hall, was begun. The library contained 64,815 volumes. President, Lemuel Herbert Murlin, LL.D.

**DERBY.** See RACING.

**DESTROYERS.** See VESSELS, NAVAL; NAVAL PROGRESS.

**DETROIT, UNIVERSITY OF.** An institution of higher education at Detroit, Mich., under the auspices of the Roman Catholic Church; founded in 1876. It is conducted by the Jesuit Fathers. In the autumn of 1926 there were 2230 students registered for the college course, distributed as follows: arts and science, 441; law, 259; commerce and finance, 890; engineering, 598. There were 465 students enrolled for the high school course. In the summer session 91 students were enrolled. The faculty numbered 190. The productive funds and income for the year totaled \$540,036.42. The library contained about 45,000 volumes. The following new buildings, estimated to cost over \$2,000,000, were under construction: Faculty residence, power house, engineering building, chemistry building, science building, recitation hall. President, the Reverend John P. McNichols, S.J., A.M., Ph.D., LL.D.

**DETROIT INSTITUTE OF FINE ARTS.** See ART MUSEUMS.

**DIABETES.** The status of the treatment of diabetes in 1926, bearing in mind the revolutionary advances made by medical knowledge in recent years, was indicated as follows in the medical clinic of Professor Wenckebach of the University of Vienna (Adlersberg and Porges

in the *Klinische Wochenschrift* for August 13): The aim of the dietetic treatment is less to underfeed and restrict food articles than to feed with those which are best tolerated—i.e., which will not increase the blood sugar, the object being to restore to the liver its normal content of glycogen. When this is accomplished the symptoms all improve. In the mild and moderately severe cases diet is all that is required, one which is relatively rich in protein and poor in fat. As for the carbohydrates, they should be selected for the tolerance shown to them and many new forms of dietetic carbohydrates have been introduced in recent years. The patient may vary their use, reduction of the sugar percentage in the urine being the principal criterion. In the severe type of case, insulin is given with carbohydrates in abundance with minimal fat and moderate protein. The better adjusted the diet the less the amount of insulin required. In some patients 20 units of the latter will clear up the urine while in another 90 may fail to do so. The authors make no allusion to the Allen fasting cure. See FOOD AND NUTRITION.

**DIAMONDS.** The production of diamonds in South Africa was active in 1926, as this industry, after gold, occupied the major position in the mineral output of the Union of South Africa. During the year there were concluded contracts between the producers and the Buyers and Sellers Syndicate and there was an inter-producers' agreement which was said to be in every way successful. There was an increase in the production from the alluvial regions of the West Transvaal, especially in the district of Lichtenburg, where a large town had developed in the latter half of the year with a population of about 80,000 people. Developments in this region indicated that the output could increase and might be a source of concern to the operations of the Syndicate and the leading diamond producers of South Africa. Diamonds were discovered on the coast of Namaqua Land, the conditions being somewhat similar to those obtaining in Southwest Africa. In the Congo the diamond mining companies had a prosperous year, with an output exceeding that of 1925. In the Congo the companies operating were the Forminière, Kasai, Beceka, and Luebo, while in Angola the Diamang Company was also producing. A new diamond mining company, the Lueta, was formed during the year. These diamond mining companies in the Kasai Region were said to employ 340 whites and 27,000 blacks. In 1926 imports into the United States were: Rough diamonds, 236,953 carats, valued at \$13,070,767 and diamonds cut but unset, 555,363 carats, valued at \$51,361,942 as compared with 171,842 carats valued at \$9,492,328 and 513,783 carats, valued at \$49,620,666 in 1925.

**DIAMONDS, RADIUM TREATMENT OF.** See CHEMISTRY, INDUSTRIAL.

**DICK TOXIN.** See SCARLET FEVER.

**DIPHTHERIA.** Although the campaign for detecting and immunizing children susceptible to diphtheria appears to be making good in some of the large cities of the country, efforts at securing immunization from swallowed antitoxin are going ahead, for with a successful outcome the drawbacks of serum sickness and anaphylaxis will be obviated. Among the workers in this field Reiter and Soldin of Berlin report their recent experience in the *Deutsche*

*Medizinische Wochenschrift* for August 6. First the principle was found to work out perfectly in small laboratory animals (guinea pigs), which first received sodium benzoate to improve the powers of absorption by the mucous membrane, and then immunizing doses of antitoxin by the mouth. The method was then transferred to a group of children who received each one gram of the salt in raspberry water, and two hours later 2 cc. of a standard make of mixed toxin-antitoxin in milk. A week later a three-fold dose of the same mixture followed and after a similar intermission a five-fold dose. Of more than a hundred children thus treated all but six bore the two medicaments well. The only available way of testing for immunity was to make the ordinary Schick test for sensitiveness to the toxin, and the results were wholly satisfactory to the investigators. The immunity lasts for at least six months. Naturally, only an actual epidemic can prove conclusive.

**DIRIGIBLES.** See AERONAUTICS; MILITARY PROGRESS.

**DISARMAMENT.** Once more the problem of the limitation of armaments is attracting the attention of the world. Investigated and discussed for five years by commissions of the League of Nations, the question was reopened by the Council of the League as a result of the conclusion of the Locarno agreements, when on Dec. 12, 1925, Senator Vittorio Scialoja, as President of the Council, invited 19 nations to participate in the work of a Preparatory Commission on the Limitation of Armaments. The nations invited included, besides the 10 which are represented on the Council (France, Great Britain, Italy, Japan, Belgium, Czechoslovakia, Brazil, Spain, Hungary, and Sweden), the United States, Germany, Poland, Rumania, the Netherlands, Finland, the Serb-Croat-Slovene State, and Bulgaria. The date originally set for the meeting of the commission was February 15, but in accordance with the wishes of certain of the countries invited, led by France, this meeting was postponed.

This commission's task will be to perform the necessary preliminary work before a general conference. It will be assisted by the League's Permanent Advisory Commission, consisting of naval, military, and air experts, and by a joint commission composed of transit, financial, and economic experts, as well as representatives of the International Bureau of Labor.

This whole question is important, not only from the point of view of international peace, but from the point of view of public finance. In practically every country the maintenance of an army or navy, or both, involves a heavy outlay of public funds. The cutting down of this expenditure is essential in certain countries for the establishment of budgetary equilibrium and in other countries for the amelioration of the burden of taxation.

Below is a table showing the expenditure of the various countries for national defense, as authorized in their budgets for the fiscal year 1925-1926:

Austria .....	\$9,758,834
Belgium .....	87,974,107
Bulgaria .....	874,769
Czecho-Slovakia .....	55,140,540
Denmark .....	12,825,296
Estonia .....	4,484,295
Finland .....	9,759,840
France .....	221,798,482

Germany .....	\$186,786,051
Greece .....	11,396,800
Italy .....	115,169,461
Latvia .....	8,786,814
Lithuania .....	5,172,700
Netherlands .....	42,005,173
Norway .....	8,888,850
Poland .....	138,876,100
Portugal .....	19,827,091
Rumania .....	21,623,254
Serb-Croat-Slovene State .....	38,220,409
Spain .....	90,820,704
Sweden .....	39,609,167
Switzerland .....	16,488,186
Turkey .....	28,373,783
Union of Soviet Socialist Republics .....	215,088,205
United Kingdom .....	559,015,000

Army strength is shown in the following table:

	Terms of service with regular army	Peace strength of army
France .....	1½ years	657,000
Russia .....	2 "	800,000
Italy .....	1½ "	308,000
Poland .....	2 "	276,000
Rumania .....	2 "	140,000
Yugoslavia .....	2 "	116,000
Czecho-Slovakia .....	14 mos.	150,000
Belgium .....	1 "	90,000
Spain .....	2 "	180,000
Greece .....	2 "	86,000

When the question of disarmament comes up for a practical solution, it is believed that the question of expenditures for military purposes will be considered along with the equally important factors of industrial capacity, geographical position, system of alliances, and the like. Upon all these factors combined, not upon an army alone, depends ultimate security against armed aggression.

On January 4, President Coolidge asked Congress for an appropriation of \$50,000 to pay the expenses of American participation in the work of the Preparatory Commission. By requesting an appropriation instead of Congressional approval of his decision to accept the Council's invitation, the President apparently rejected any implication that such approval is necessary. He advocated participation because of "the general policy of this Government in favor of disarmament and limitation of armament." He pointed out that such cooperation involves no commitment to attend the Disarmament Conference itself. Congress granted the asked for appropriation.

Finally, on May 18, the Preparatory Commission began its first session at Geneva. With the exception of Soviet Russia, all the states invited sent representatives. Hugh S. Gibson, head of the American delegation, at the opening session, read a statement in which he set forth that the American government was anxious to give cordial support to any efforts for the reduction and limitation of armaments, and urged full and free discussion of the problems before the Preparatory Commission. Though the United States had reduced its army to 118,000, or one soldier per thousand inhabitants, the American people are "not disposed to overlook the fact that other countries are differently placed and that their problems are not susceptible of such simple solution." The United States will welcome any steps leading to further limitation of naval armaments. He advocated regional agreements for disarmament rather than a

universal plan, and he urged the separation of the concrete questions from the abstract and general ones.

This latter suggestion bore fruit, in that a Drafting Committee was appointed, with Mr. Gibson as one of its members, to recast and clarify the seven complicated questions which formed the agenda, and to separate the technical and military questions from the purely political ones. The American position on regional agreements for disarmament was upheld by the delegates of Argentina, Brazil, and Chile. The Scandinavian countries, too, have for years advocated this approach. A subsequent proposal by Mr. Gibson, that the sub-committees study the possibilities of regional disarmament, was accepted.

According to careful observers, like the Foreign Policy Association, the main obstacle to the success of the Preparatory Commission was the profound cleavage between the British and the French points of view. The British thesis, expounded by Lord Cecil, was that limitation and reduction can be applied only to the actual armaments of the countries concerned, that is, to their standing armies, including reserves and material available within a very short time. M. Paul Boncour, the French spokesman, on the other hand contended that in calculating the armaments to be allowed to any nations the "potential strength," that is, the natural resources, wealth, population and industrial equipment of the nation in question, must be included. In other words, he argued that a country deficient in this potential armament should be permitted to make up the deficiency by keeping a larger standing army than its neighbors which have greater resources and are more developed industrially.

The same countries which championed the Geneva Protocol proclaimed the impossibility of any disarmament without security. It was left for the German representative to point out that security has been to a great extent achieved through the Covenant of the League of Nations, which provides for economic and military aid to the members who are victims of aggression. The French representative, more skeptical as to the efficacy of the League sanctions, secured the adoption of a proposal to ask the League Council to define its duties and accelerate its action in case of aggression or threat of war.

In connection with the French suggestions about new security plans, Count Bernsdorff, the German delegate, referred with satisfaction to M. Briand's statement in the March Assembly that Germany morally was already to be considered a member of the League Council. Count Bernsdorff said he wished to declare that Germany recognizes the necessity for an examination into the proposed methods of bringing rapid assistance to an attacked country. This examination, however, should not be based on the present position or armaments, which is only temporary, but should have as its starting point a state of general disarmament resulting from the conference.

Count Bernsdorff further declared that disarmament should be based on the principle that no country should be powerful enough to be able to assert its strength against that of the League. He urged, therefore, that League States should maintain such armament that together they could put at the disposal of the League a force

that would enable the League to execute its decisions against an aggressor.

The first session of the Preparatory Committee ended on May 26. Before leaving Geneva, upon the termination of the session, Lord Cecil said, in a statement to the press: "We have got to work and the machinery is going, but we have not as yet reached the point of establishing a scheme for world-wide disarmament." Continuing, he said that as a pure guess he did not think the Disarmament Conference could be assembled before the end of the year 1927. The Preparatory Committee had taken two positive decisions. One was that it was only peace armaments that could be limited, and in the second place it was understood that when the conference met each State would submit a definite scheme showing what armaments it needed, both as regards personnel and material, together with a statement of the grounds on which it was based.

Lord Cecil further pointed out that the committee had added two other schemes to its programme—namely, the control and supervision of armaments and an investigation into the question of chemical warfare. With regard to the possibility of a conference on naval armaments proceeding at the same time as the present disarmament discussion, Lord Cecil said he thought that if another conference were called it might appear to be competing with the present discussions, but that when these had got a little further there would be no reason why certain phases of the subject should not take a more concrete form while fitting in with such discussions. He was very much impressed with the necessity of going slow with the work of the sub-committees. The Commission will not meet again until its technical sub-committees have had time to study and prepare reports on the numerous difficult questions referred to them.

Perhaps the most important items of the report was the proposal, introduced by France, that every government should submit to the final conference "definite and quantitative proposals" in regard to their scale of armaments. The report states that it would be impracticable at present to limit the ultimate war strength of a country, and lists the various methods proposed for reduction or limitation of peace-time effectives. It also includes a proposal concerning regional disarmament, introduced by the American delegation, and proposals concerning chemical and bacteriological warfare and publicity concerning war inventions. A statement by the German delegation that the present status of armaments is temporary, and that no country must be so powerful as to be able to defy the League, is also included in the report.

The military sub-committee, on which the United States was represented by Rear Admirals Hilary P. Jones and Andrew T. Long and Brig. Gen. Dennis E. Nolan, started work immediately. General Nolan proposed a definition of armaments which constituted a compromise between the British and the French theses.

The Council of the League of Nations at its June meeting took action and decided unanimously to submit as an official document of the League a report on the limitation of armaments prepared by an American committee of private citizens. The action of the Council was doubtless partly due to the list of distinguished

Americans who have cooperated in the preparation of the document: Dr. James T. Shotwell, Gen. Tasker H. Bliss, Dr. Isaiah Bowman, Dr. Joseph P. Chamberlain, Prof. John Bates Clark, Dr. Stephen P. Duggan, Gen. James G. Harbord, Frederick P. Keppel, David Hunter Miller and Dr. Henry S. Pritchett. A personal link between this group and influential personages in Europe was furnished by the fact that Dr. Shotwell had discussed the problems in question with responsible European statesmen, cabinet members, military and naval experts and other important personages in France, England, Belgium, Italy, Germany, Austria, Hungary and Czecho-Slovakia. This American group was of course entirely unofficial, composed of private citizens who were deeply interested in the formulation of a world policy on disarmament and national security in which other nations than those within the League might have full participation.

It at once became evident that the starting point for the discussion of this problem in America was fundamentally different from the basis of European discussion. In the United States the main interest lies in policies of disarmament and the "outlawry of war"; in Europe, especially on the Continent, and more especially in these post-war years, the problem of national security takes precedence.

The military sub-committee of the Commission adjourned November 5, after six months of almost continuous work. There was no unanimity in their replies to the seven questions of the Preparatory Commission, but their findings must serve as a basis for the discussion in the Preparatory Commission, which would probably meet in the following spring after the governments had had an opportunity to study and comment upon the report. The conference probably would be delayed to give ample time for preparation and in the hope that Soviet Russia might attend.

Separation of issues in the question of disarmaments has been found impossible, according to the report of the Joint Commission on the economic aspects of certain disarmament questions. Since only the Preparatory Commission for the Conference is able to pass on such questions, the civil sub-committee of this Commission, on the proposal of Lord Cecil, voted unanimously to forward the Joint Commission's report to the Preparatory Commission without further discussion. As American views on all questions had already been expressed before the military sub-committee, further American reservation or opposition to the points at issue will be deferred till the next meeting of the Plenary Commission. The question of regional agreements was also considered as a political question, and referred to the Preparatory Commission.

Final settlement of the question of the disarmament of Germany was expected to be the fruit of the 43d session of the Council of the League. This will involve the withdrawal of the Interallied Commission on Military Control, regarded as the inevitable consequence of the Treaties of Locarno and the conference at Thoiry. The kernel of the question, however, was the degree to which Germany, in order to obtain the satisfaction of this withdrawal of control, was ready to submit to what the League Council thinks necessary in the matter of restrictions

on armament. Four points were submitted by Sir Austen Chamberlain, as conditions for the withdrawal of control from Germany, to the French, Belgian and Italian Governments: (1) Subordination of the Commander-in-Chief of the Reichswehr to the authority of the Minister of Defense. (2) Regulation of the question of recruiting and military organizations. (3) Control of the export of arms and munitions. (4) Destruction of new fortifications on the eastern frontier of Germany.

The sub-committee of the Interparliamentary Union's Committee for the Reduction of Armaments appointed to elaborate a draft plan of reduction of armaments, met in Paris in June. It presented then to the Plenary Committee a report consisting of a series of theses and declarations setting forth the principles, which in its opinions, should serve as basis to the final plan. The President of the Commission, Dr. Munch, commenced the report briefly, after which the debate was opened within the Commission. It was first of all agreed that the report of the sub-committee should be circulated to the groups, which would be asked to furnish comments within a fixed date to enable the sub-committee to prepare a final draft for presentation to the next Conference. The full Commission was to meet some days before that Conference in order to make it possible for overseas groups to be represented on it.

**DISCIPLES OF CHRIST.** A communion known also as the Churches of Christ and sprung from a movement for Christian unity, which arose in American Presbyterian circles at the beginning of the 19th century, under Barton W. Stone in Kentucky and Thomas and Alexander Campbell in western Pennsylvania. This is the largest religious body having its origin in America. It was fifth among Protestant communions in the United States in 1926. In polity the churches are congregational. There were five major agencies of this communion in 1926: The United Christian Missionary Society; Board of Education; Board of Temperance and Social Welfare; Association for the Promotion of Christian Unity; and the missionary societies of the several States and of the Provinces of Canada. These agencies are related in an advisory way to the International Convention of Disciples of Christ, which meets annually in May. The general missionary work of the churches is organized under the United Christian Missionary Society, with headquarters at 425 DeBaliviere Avenue, St. Louis, Mo. Its board of 120 managers is composed of an equal number of men and women. The foreign missionary work in 1926 embraced the Belgian Congo, China, India, Jamaica, Japan, Mexico, Philippine Islands, Porto Rico, Argentina, Paraguay, and Tibet. At the end of the year the Society had almost completed a thorough survey of the work throughout the world.

During 1926 there were 4827 baptisms in foreign fields, a gain of 777 over 1925. The 539 foreign day schools had a total enrollment of 15,204. The 18 hospitals and 24 dispensaries treated 428,797. The Church Erection fund amounted to \$2,448,862.39. Appropriations for pastoral support were made to 141 home missions churches. The Society maintained Bible chairs in four State universities. Work was conducted among the French, highlanders, immigrants, Indians, Negroes, Orientals, Spanish-

Americans, and Mexicans. The department of benevolence maintained six homes for children, six homes for the aged, and one hospital. The Men and Millions Movement reported paid pledges amounting to \$282,101.68 during the year, bringing the total up to \$5,902,246.86. In 1926, 25 colleges coöperated with the Board of Education. The imperative need for ministerial pensions brought about the creation of a commission to study the field. Statistics of the denomination for 1926 showed a total church membership throughout the world of 1,523,307 and in the United States and Canada, 1,436,575. Bible school enrollment for the world was 1,226,092; number of churches throughout the world, 9786. The total number of preachers in the United States and Canada was 6871. Contributions reported in the United States and Canada for the fiscal year totaled \$4,724,436.98. Among the periodicals published by the Disciples are: *World Call*; *Christian Evangelist*; *Christian Courier*; *Christian Unity Quarterly*. The International Convention, which meets annually, had as its president for 1926-27 E. S. Jouett, vice-president and general counsel of the Louisville & Nashville Railroad, Louisville, Ky. The president of the United Christian Missionary Society was the Rev. F. W. Burnham, St. Louis, Mo.

**DISEASES OF ANIMALS.** See VETERINARY MEDICINE.

**DISEASES OF PLANTS.** See BOTANY.

**DIVORCE.** See MARRIAGE AND DIVORCE.

**DOCKERY, ALEXANDER M.** Former Governor of Missouri, died on December 26, at Gallatin, Mo. He was born in Davies County, Mo., on Feb. 11, 1845, and was educated in the common schools and at Macon Academy, Macon, Mo. Later, he attended the St. Louis Medical College from which he graduated as a physician in 1865. Thereafter he practiced medicine at Chillicothe, Mo., until 1874 in which year he entered the banking business at Gallatin, Mo. From 1882 to 1898 Mr. Dockery served as a Democrat in Congress, and two years later was elected governor of Missouri. In 1905 he retired from public office, but in 1913 he was recalled to public service in the capacity of third assistant postmaster general, serving through both of President Wilson's terms. While in Congress, Mr. Dockery was the author of the law concerning the bonding of United States officers, making it imperative that these bonds be examined every two years, strengthened if need be, and definitely renewed at the end of each four-year period. He put through the House the bill dissolving the contract between the Union Pacific and the Western Union Telegraph Company. He was definitely opposed to subsidies for steamships carrying mails, and was the author of the free delivery system for the smaller cities and towns.

**DODGE, CLEVELAND HOADLEY.** American financier and philanthropist, died at Riverdale, N. Y., June 24. He was born in New York City, Jan. 26, 1860, the son of William Earl Dodge, a well known business man and philanthropist, and was educated at Princeton University, graduating in 1879, in the same class with Woodrow Wilson. After his graduation from college he entered the family business of Phelps, Dodge & Company, later becoming vice-president of the Phelps Dodge Corporation. Following the traditions of his family he became in-

terested in philanthropy, not only contributing liberally to various religious and humanitarian agencies, but taking a prominent part in the management of campaigns for funds. He was the executive head of the Red Cross campaign in 1917, and directed the United War Work campaign which raised more than \$17,000,000 for the Young Men's Christian Association, the Knights of Columbus, the Salvation Army, and other religious organizations during the World War. He was an advocate of the nomination and election of his classmate, Woodrow Wilson, for the Presidency, and in both campaigns was an influential and generous supporter. He was also active in the unsuccessful campaign of John Purroy Mitchel for reelection as mayor of New York in 1917, and contributed generously to the Cox campaign in 1920.

Mr. Dodge participated actively in the campaign for the fund for Near East colleges as chairman of the executive committee, contributing \$500,000 and securing the total amount of \$2,500,000 asked for, which was devoted to the uses of Robert College, the Constantinople Women's College, American University of Beirut, the Sofia American Schools, and the International College of Smyrna. Mr. Dodge was a trustee of the Atlantic Mutual Insurance Company, a director of the National City Bank, and other commercial organizations, as well as a vice-president of the American Museum of Natural History; president of the board of trustees of Robert College, Constantinople; trustee of the New York Public Library; also the New York Zoölogical Society; and, in 1917 was treasurer of the American committee for Near East Relief. At various times he was mentioned prominently for public office, but never became a candidate.

**DOLE, SANFORD BALLARD,** Ex-president of the Republic of Hawaii and United States district judge of Hawaii Territory, died at Honolulu, Hawaii, June 9. He was born in the Hawaiian Islands, Apr. 23, 1844, the son of Daniel and Emily Dole, who were American missionaries. He was educated at Oahu College and his father's school at Koloa, Hawaii, and at Williams College, later studying law in Boston where he was admitted to the bar. Returning to Hawaii he engaged in the practice of law in Honolulu, and in 1884-86 was a member of the legislature. He participated in the reform movement of 1887, and served as judge of the Supreme Court until he was placed at the head of the provisional government in 1893, becoming president of the Republic of Hawaii in 1894, having previously refused to relinquish to Queen Liliuokalani her constitutional authority at the demand of President Cleveland. Judge Dole denied Cleveland's right to interfere, and advocated the annexation of Hawaii to the United States. In January, 1898, he visited the United States on behalf of annexation, and after this was consummated he became governor of Hawaii, serving from 1900-03, when he became United States district judge, an office he held until 1915. He was appointed by President McKinley a member of the commission to recommend to Congress legislation concerning Hawaiian territory.

**DOMINGUEZ, LORENZO.** Spanish financial leader, died in Madrid, Spain, on December 8. He was born in Seville, Spain, in 1863, and rapidly rose to a position of importance in the



Spanish financial world. For a time he served as Governor of the Bank of Spain, and for nearly thirty years was a Deputy serving the Government in connection with the Treasury and general finance. When the famous Dato cabinet was formed in 1920, Dominguez was made Minister of Finance.

**DOMINICA.** See LEEWARD ISLANDS.

**DOMINICAN REPUBLIC (SANTO DOMINGO).** A West Indian state occupying the eastern part of the island of Haiti or Santo Domingo, the smaller part being occupied by the Republic of Haiti (q.v.). Capital, Santo Domingo.

**AREA AND POPULATION.** The estimated area is 19,332 square miles; population, according to the census of 1921, 897,405. The largest cities with their populations at that census are: Santo Domingo, 30,957; Santiago de Los Caballeros, 17,052; San Pedro de Macoris, 13,802; and La Vega, 6564.

**EDUCATION.** Elementary instruction is free and compulsory and is maintained by the communes with state aid. The public schools are primary, secondary, and normal schools. According to the latest available statistics there were 972 public schools with 1544 teachers and 105,000 pupils.

**PRODUCTION.** Agriculture is the chief source of wealth, sugar cultivation being the chief industry. About 12,500 square miles of the total area are cultivable and about 3,000,000 acres are suitable for grazing. In the north central and eastern portions, tobacco, cacao, and coffee are grown, while the largest sugar plantations are in the southern part. The forest area is about 9,500,000 acres. The sugar crop for 1926 was estimated at 418,920 short tons. In the annual report of the minister of agriculture for 1925 the production of sugar was stated to be greater than that of 1924 by 176,000 tons; 1,000,000 kilos more of corn were produced; cacao showed a slight increase, while the tobacco crop increased 6,000,000 kilos, and coffee 433,720 kilos. Mineral resources of almost every kind are found to some extent within the republic.

**COMMERCE.** The total foreign trade of the Dominican Republic in the calendar year 1925 was \$52,109,603, a slight advance over the figures for 1924, when the total foreign trade was \$51,843,467. Importations in 1925 were valued at \$25,339,052 and exports were valued at \$26,770,611. The value of the exports increased by \$3,758,481 over 1924. The United States maintained its position in 1925 as the principal source of supply of Dominican imports. Sixty-two per cent, with a value of \$16,502,243, came from the United States. Porto Rico occupied second place and Germany third. Of the imports credited as coming from Germany, however, 40 per cent represented rice that originated in the Far East. The total value of the exports from the Dominican Republic in 1925 was \$26,770,611, a decrease of \$3,492,285 from the 1924 figure. This decrease is attributable to the low price of sugar, although the production of sugar in 1925 was approximately 80,000,000 kilos greater. The proceeds from the crop were more than \$6,000,000 less than in 1924. Satisfactory progress was noticed both as to volume and value in the exports of cacao, tobacco, and coffee during the year.

**FINANCE.** On Dec. 22, 1925, the Senate passed the 1926 budget, expenditures, with certain sup-

pressions, being the same as in 1925 (\$10,089,313). Total revenues were estimated at \$11,968,110. After deducting from this amount the sums due for payments of interest on the national debt and other obligations there remained a balance of \$8,006,840. Among the appropriations made from this sum was \$900,000, which was allotted for the construction of various roads and for the payment of salaries and wages of employees in the Department of Public Works. An appropriation of \$200,000 was also made for irrigation works, \$60,000 for reconstructing the building of the Department of Justice, which was destroyed by fire, and \$125,000 for pensions. After these appropriations and various others were made there remained a balance of \$952,381, which may be applied through special legislation to various uses.

**COMMUNICATIONS.** In 1924, 833 steamers of 1,110,917 tons with cargo and 172 steamers of 251,128 tons in ballast, entered in the foreign trade of the republic, and 655 steamers of 932,288 tons with cargo and 228 steamers of 293,987 tons in ballast cleared. The total length of railway lines is about 153 miles, exclusive of about 255 miles of private lines on large estates.

**GOVERNMENT.** The republic is governed under a constitution adopted by the Constituent Assembly on June 13, 1924. Executive power is vested in a president and cabinet of seven ministers. The president is ineligible for a second successive term. The senators and deputies are elected for four years by direct popular vote. Each of the 12 provinces is represented by one senator and (in practice) by two deputies. President in 1926, Horacio Vasquez, who assumed office on July 12, 1924.

**DOURINE ERADICATION.** See VETERINARY MEDICINE.

**DRAINAGE.** See RECLAMATION.

**DRAKE UNIVERSITY.** An institution of higher education at Des Moines, Iowa; founded in 1881. The number enrolled in the autumn of 1926 was 1873, distributed as follows: College of liberal arts, 642; commerce, 248; education, 400; law, 87; fine arts, 417; Bible, 79. The faculty numbered 87. The fixed endowment amounted to \$866,770. The number of volumes in the library was 45,000. President, Daniel W. Morehouse, Ph.D.

**DRAMA.** See THEATRE and articles on Literature, as LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; SCANDINAVIAN LITERATURE; SPANISH LITERATURE.

**DRURY, RT. REV. THOMAS WORTLEY.** English prelate and master of St. Catherine's College, Cambridge, died at Cambridge, February 12. He was born on the Isle of Man, Sept. 12, 1847, and was educated at King William's College, Isle of Man, and Christ's College, Cambridge, where he took honors. He was ordained in 1871 after serving as curate of Kirk Braddan, 1871-73, and as mathematical master of King William's College, 1873-76. He was rector of Holy Trinity, Chesterfield, 1876-82. In the latter year he became principal of the Church Missionary College, Islington, 1882-99, where he trained students with great efficiency for the examinations of the Bishop of London, and made a name for himself in the institution. In 1899 he was made principal of Ridley Hall, Cambridge, where he served until 1907, training young men for



the church, and insisting upon sound mental discipline and application.

Dr. Drury was several times chosen as select preacher of Cambridge University, and in 1900-01 he was a member of the Fulham Conference on Confession and Absolution, and of the Royal Commission on Ecclesiastical Discipline, 1904-06, being the only Evangelical clergyman on the board of this body. In 1907 Dr. Drury was appointed Bishop of Sodor and Man, and in 1911 Bishop of Ripon. In 1915 he was a member of the War Office Committee on Chaplains, and in 1918 he was made sub-prelate of the Order of St. John of Jerusalem. In 1920 he was appointed master of St. Catherine's College, Cambridge. He was the author of a number of ecclesiastical and other works including: *Confession and Absolution*; *How We Got our Prayer Book: Two Studies in the Prayer Book*; *Elevation in the Eucharist, its History and Rationale*; *A Prison Ministry*; and *The Ministry of our Lord*.

**DUANE, ALEXANDER.** American ophthalmologist and medical writer, died at New York, June 11. He was born at Malone, N. Y., Sept. 1, 1858, and after graduating from Union College in 1878 attended the College of Physicians and Surgeons of Columbia University, receiving the degree of M.D. in 1881. He entered upon the practice of medicine in New York City, and during the Spanish-American War he served as lieutenant (junior grade) in the United States Navy in charge of the second district Coast Signal Service, and was carried in the same capacity on the reserve list of the Naval Militia in New York until 1917 when he was acting signal officer of the U. S. S. *Granite State*. In 1919 he was honored with the degree of Sc.D. from Union College, and in 1923 became a member of its board of trustees. He was a member of many medical and military societies in New York. His literary work included: *Student's Medical Dictionary* (1893), (fourth edition, 1902); *Fuchs' Textbook of Ophthalmology* (1892), (seventh edition, 1923); *Motor Anomalies of the Eye* (1897); *Rules for Signaling on Land and Sea* (adopted by U. S. Navy Department for Instruction of Naval Militia of U. S.) (1899), (second edition, 1901); contribution of medical terms to *Webster's International Dictionary* (1890); *Murray's New Dictionary of the English Language* (London); *Foster's Encyclopedic Dictionary of Medicine* (1888-94); and to works of De Schweinitz & Randall (1899); and Posey and Wright (1902), on *Diseases of the Eye, Ear, Nose, and Throat*; and Posey and Spiller, *Eye and Nervous System* (1906); and Weeks' *Diseases of the Eye* (1910).

**DUKE UNIVERSITY.** An institution for higher education at Durham, N. C.; established in 1924 by the expansion of Trinity College, made possible through benefactions from James B. Duke, as described in the article on the University in the 1925 YEAR BOOK. The enrollment for the autumn of 1926 was 1475, and for the summer session 1143. In the autumn the faculty numbered 121, 30 additions having been made beginning September, 1926. The endowment funds of the University amounted to \$27,500,000, and the income for the year was estimated at \$630,000. Eleven new buildings were in process of construction on the campus, four of which were completed and occupied dur-

ing the year, the remainder to be ready for occupancy by June 1, 1927. The University received the Angier B. Duke Memorial Loan for Students, amounting to \$330,000. President, William Preston Few, Ph.D. LL.D.

**DULA, ROBERT B.** American tobacco manufacturer, died in New York City, April 27. He was born at Lenoir, N. C. in 1849, and was educated at the University of North Carolina. He served in the Home Guards during the Civil War and, after moving to the west, settled in Missouri where he first taught school, and then went into the tobacco business at Wentzville, Mo. His activity here led to his association with the Drummond Tobacco Company of St. Louis, of which he had charge from 1886-98 when the business was taken over by the American Tobacco Company. During his life in St. Louis, Mr. Dula was active in public affairs, serving on the World's Fair Commission, the school board, and the boards of several financial institutions, as well as evincing interest in church work. In 1903 he came to New York as vice-president of the American Tobacco Company in charge of the operating department where his knowledge of the tobacco industry was an important factor in the growth of this company. Here he was associated with the president, James B. Duke, and was active until the company was broken up in 1911 when he retired from active participation in the tobacco business, retaining only his directorship in the Liggett & Myers Tobacco Company, of which his brother, Caleb C. Dula, was president.

**DUNKERS or DUNKARDS.** See BRETHREN, CHURCH OF THE.

**DUNN, ARTHUR WALLACE.** American newspaper correspondent, died at Washington, D. C., November 2. He was born in Meeker Co., Minn., on Feb. 11, 1859, and began his newspaper career on the *Grand Forks, (N. D.) Plain Dealer*, in 1883. In 1889 he went to Washington as the correspondent of the *St. Paul Pioneer Press*, later acting for the *Portland Oregonian*. In 1893 he was placed in charge of the congressional staff of the Associated Press in Washington, which position he held until 1906. For many years he sent a daily letter on Washington topics to the American Press Association, and he was a contributor to the *Review of Reviews*, *World's Work*, and other magazines. He was an organizer of the National Press Club and had been a member of the Gridiron Club since 1901, serving as president of the Gridiron in 1906. Shortly before his death he became the Washington correspondent of the *New York Graphic*. He was the author of *Gridiron Nights*, *Frontier Facts and Fiction*, and *How Presidents are Made*.

**DUNRAVEN AND MOUNT-EARL.** WINDHAM HENRY WYNDHAM-QUIN, FOURTH EARL OF. English politician, died in London, England, on June 14. He was born at Adare Abbey, Feb. 12, 1841, and was educated at Christ Church College, Oxford, where he was a lieutenant in the Oxford University Rifles, 1860-61. In 1865 he entered the Army and in 1867 he was war-correspondent for the *Daily Telegraph* in Abyssinia, serving in the same capacity during the Franco-Prussian War and the Siege of Paris. In 1868 he was aide-de-camp to the Lord Lieutenant of Ireland, and Under Secretary to the Colonies for the period 1885-87, in the Salisbury ministry. From 1888 to 1890 he was chairman of the House of Lords Committee to in-

investigate industrial sweating. In 1899 he was made an Irish Privy Councilor, having served as His Majesty's Lieutenant for County Limerick in 1894. He was chairman of the Irish Land Conference in 1902-1903, and was made C. M. G. in 1902. He was President of the Irish Reform Association, and served in South Africa as Captain of the 18th Battalion of Imperial Yeomanry Sharpshooters. In the engagements fought he won the Queen's medal with two clasps.

He was an enthusiastic yachtsman and twice built a sailing yacht in an attempt to win the America's Cup in the United States. With *Valkyrie II* in 1893 and *Valkyrie III* in 1895, he unsuccessfully competed for this trophy in the waters of New York Bay. The latter attempt resulted in a controversy due to charges being made against the American yacht. Lord Dunraven was an honorary Captain in the Royal Naval Reserve, and wrote on navigation and other subjects. He was honorary colonel of the 5th Battalion of the Royal Munster Fusiliers, disbanded in 1922. He received the Order of the British Empire, and on the formation of the Irish Free State he became a Senator. He wrote much and among his publications are: *The Great Divide: the Upper Yellowstone* (1874); *The Irish Question* (1880); *Canadian Nights* (1914); and *Past Times and Pastimes* (1922).

**DU PONT, COLONEL HENRY ALGERNON.** American soldier and politician, died on December 31, at Wilmington, Del. He was born at Eleutherian Mills, Newcastle County, Delaware, July 30, 1838. He received his early education in private schools, and later attended the University of Pennsylvania, but left in his junior year, to join the United States Military Academy at West Point, whence he graduated at the head of his class in July, 1861. He was commissioned a second lieutenant in the U. S. Corps of Engineers, and entered service with the Union Army in the Civil War. Within a year he had won a captaincy on the field, and before the end of the war was made brevet major, "for gallant and meritorious service at the Battles of Opequan and Fisher's Hill." He was brevet lieutenant colonel "for distinguished services at the Battle of Cedar Creek, and he received the Congressional Medal "for most distinguished gallantry and voluntary exposure to the enemy's fire at a critical moment," during the Cedar Creek engagement. He took part in many other engagements and skirmishes. In 1875 he resigned from the army after having been in command of Fortress Monroe. Colonel du Pont became president and general manager of the Wilmington and Northern Railway Company in 1879, and after 20 years as a railroad head he retired to his estate and busied himself with farming and politics. He was an unsuccessful candidate for the United States Senate, in 1895, but in 1899 again made the contest against the same opponent, J. Edward Addicks. A deadlock having occurred, the colonel refused again to be a candidate. In 1905, however, after a special election in the Legislature, Colonel du Pont was elected senator. Thereafter until 1917 he was a Senator continuously. During his 10 years in the Senate he did most of his work in committee and in the party councils. He became Chairman of the Committee on Military Affairs. His political life was a stormy one, in part owing to his private wealth, and the sug-

gestions of corruption which were leveled at him. In 1911, Senator Reed of Missouri challenged his election to the Senate but Colonel du Pont's right to the seat was upheld. He was defendant in a Government suit in 1911, the Government alleging that the du Pont Powder Company and 28 others maintained a combination in restraint of trade, in violation of the Sherman Anti-Trust Act. The company was found guilty but the bill against Colonel du Pont and numerous other individual defendants was dismissed. The colonel was also cited in connection with the Reading Company's railroad and mines case, but he was individually absolved.

**DUTCH EAST INDIES.** A possession of the Netherlands in the East Indies, comprising the territory of Dutch East India and consisting of the group of islands in the Pacific lying between 6° N and 11° S, and between 95° and 141° E longitude. Capital, Batavia.

**AREA AND POPULATION.** The usual method of dividing the colony is as follows: (1) Java and Madura, divided into 17 residencies, each under a resident and several assistants at the head of a large number of native officials; (2) the outposts, consisting of Sumatra, Borneo, Celebes, a part of New Guinea, the Molucca Archipelago, the Sunda Islands and other small islands, under functionaries variously entitled governor, resident, controller, etc. The area is estimated at 733,642 square miles; population, according to the census of 1920, 49,350,834. In the same year the Europeans numbered 169,708, and the Orientals, other than native, 876,506, mostly Chinese and Arab.

**PRODUCTION.** The harvested area in acres under various native crops in 1924 was as follows: Irrigated rice, 7,402,810; non-irrigated rice, 955,265; maize, 4,356,773; cassava, 1,822,345; sweet potatoes, 445,704; groundnuts, 476,413; soya beans, 417,861; other pulses, 509,872; tobacco (native), 488,794; other secondary crops, 1,453,849; total, 18,329,684. In the same year 423,626 acres were under sugar; the total production amounted to 1,997,068 tons; and the number of factories engaged in the preparation of the product, 181. The production of other products was: Coffee, 42,900 tons; rubber, 90,291,000 kilos; cinchona, 11,321,000 kilos; tobacco, 51,963,000 kilos; cacao, 1,051,000 kilos; tea, 56,902,000 kilos; and oil palms, 4,924,000 kilos of oil. The total yield of the tin mines worked by the government and private concerns in 1924 was 32,051 metric tons. In the same year the yield of the principal coal mines in Java, Sumatra, and Borneo, was 1,470,362 metric tons. Petroleum and other mineral oils in 1924 was 2,925,768 thousands of kilos. While the greater part of the soil of Java is claimed by the government, private estates are found chiefly in the western part, and mainly in the hands of the Europeans and Chinese.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce the import trade of the Dutch East Indies in 1925 continued the definite upward trend which was established the previous year. Those items which are recorded by value, including textiles, registered an increase of 32 per cent in the first three-quarters of 1925, compared with the same period in 1924. Those recorded by weight showed an increase of 4 per cent. Articles entered in litres, however, showed a decrease of 17 per

cent, largely accounted for by decreased imports of kerosene. An estimate places the 1925 imports into Java at more than \$1,000,000 above those of 1924. The percentage of increase in 1925 of imports into the outlying districts, or outer possessions, was much greater than in Java and Madura. In the outlying districts, higher prices for products benefit the individual native to a much greater degree than in Java, where the percentage of direct production by natives is lower, most of the export produce coming from European-owned estates. For purposes of comparison, the total export trade of 1924 was 1,557,329,000 florins and the total import trade, 714,018,000 florins.

**FINANCE.** The budget estimates in 1925 were: Revenue, 653,155,229 guilders; expenditures, 694,001,913 guilders; deficit 40,846,684 guilders. For 1926, the figures were: Revenue, 661,449,087 guilders and the expenditures, 713,657,021 guilders, leaving a deficit of 52,207,934 guilders. The public debt on Dec. 31, 1925, was 1,104,122,000 guilders.

**COMMUNICATIONS.** In 1924, 10,198 steamers and 7741 sailing vessels of 7,280,755 and 432,012 tons respectively entered the ports of the Dutch East Indies. At the end of 1925 there were 4138 kilometers of railways. Of these 2857 were on the island of Java, 1234 kilometers in Sumatra, and 47 kilometers in the Celebes. The total book value of the roadbed at the end of the year was 417,190,835 florins. Receipts of the state railways from all sources during 1925 amounted to 74,592,883 florins, or about 4,600,000 more than in 1924. (The florin in 1925 had an average exchange value of \$0.4016.) The receipts from passenger traffic showed an increase for the first time since 1921, reaching 24,533,641 florins as against 24,087,833 florins in 1924. The revenue from the ordinary freight was considerably above that of 1924, when the income from this source was only 39,133,323 florins. The net income of the state railways for the year, after deductions for renewals, repairs, depreciation, and retirement funds, was 21,637,589 florins; the net revenue for 1924 was 18,211,126 florins. The ordinary operating expenses in 1925 were 47,281,710 florins and 45,702,250 florins in 1924. The increase was due largely to the new general wage and salary scale which was adopted by the government in February, 1925, but the introduction of changes and improvements in the periods of service and rest also contributed to making operation more expensive.

**GOVERNMENT.** The territory is under the sovereignty of the Netherlands (q.v.) but is partly under direct government and partly under subject native officials. The chief executive authority is the governor-general who is aided by a council of five members which acts partly as a legislative and partly as an advisory body. The governor-general and the council are nominated by the crown. Governor-General in 1926, Dr. de Graeff, appointed Mar. 26, 1926.

**DUTCH GUIANA, GE-IL'na. or SURINAM.** A possession of the Netherlands on the north coast of South America lying between French Guiana on the east and British Guiana on the west, bounded on the south by inaccessible territory reaching to the Tumuc-Humac mountains. Area, 54,291 square miles; population, Dec. 31, 1924, 135,754, including Negroes and Indians. Capital, Paramaribo, with 44,772 inhabitants.

The movement of population in 1924 was: Births, 3836; deaths, 1906; marriages, 403. Among the chief products are sugar, cacao, bananas, coffee, rice, maize, rum, and molasses. Gold production in 1924 was 322,671 grammes, and that of balata, 550,501 kilos. The foreign trade amounted to \$7,702,521 in 1925, an increase of \$1,800,164 or about 30 per cent over 1924. The exports amounted to \$3,972,910 in 1925, as against \$2,963,776 in the previous year and imports increased from \$2,998,581 in 1924 to \$3,789,611 in 1925. The increase in the value of the exports was due to increased production of coffee, sugar, and bauxite, and also to the increased prices received for cacao and balata. The increase in the value of imports was general, the more important gains being in food-stuffs, except rice, dry goods and clothing, machinery, mineral oils and tobacco. Imports from the United States were valued at \$1,206,557 and exports to the United States were valued at \$715,791. The executive authority rests with a governor and an assisting council, both nominated by the crown. Governor in 1926, Baron van Heemstra, who was appointed in December, 1920.

**DUTCH REFORMED CHURCH.** See REFORMED CHURCH OF AMERICA.

**DUTCH WEST INDIES.** The name applied to the Dutch possessions in the West Indies, viz., Dutch Guiana (q.v.) and Curaçao (q.v.).

**DYESTUFFS.** See CHEMISTRY, INDUSTRIAL.

**DYNAMO-ELECTRIC MACHINERY.** The year was notable for the installation of generators of large capacity, especially in public service stations. The New York Edison Company at the close of the year was installing at its 14th Street Station two single-shaft steam turbo-generators each of 60,000 kw. capacity. The ultimate generating capacity of this station was to be 700,000 kw. At the same plant this company completed the installation of a 40,000 kva. frequency changing set consisting of two generators on the same shaft capable of converting 50,000 hp. from 25-cycle to 60-cycle frequency. The armature of this machine weighed 113 tons, each rotor being 13 ft. in diameter and 20 ft. long. Another large generator was under construction for the Hudson Avenue Station in Brooklyn, New York. This was a cross-compound, 80,000 kw., 90-per cent power factor steam-turbo unit. Each generator was rated at 44,450 kva., 13,800 volts, 3-phase and 60 cycles, and it was expected that the machine would be placed in service during 1927. In Chicago, at the Crawford Avenue Station of the Commonwealth Edison Co., there was in process of erection a 77,000-kw., cross-compound turbo-generator, that would weigh complete 101,648 lb. Another unit on order for this station was to be of 90,000-kw. capacity.

The American Brown Boveri Electric Corporation was building a generating unit of 160,000-kw. capacity at 85 per cent power factor. This was to be the eighth unit for use in the Hell Gate, New York City, station of the United Electric Light & Power Co. (part of the Edison-United System) and when installed, would give this plant a total capacity of 445,000-kw. This machine was calculated to weigh when completed 2,800,000 lb., the heaviest piece to be erected weighing 330,000 lb.

The Buffalo, N. Y. General Electric Co. put in service a 60,000-kw. single unit generator

at its Charles R. Huntley Station during the year. Several generating units of even greater capacity than those mentioned were on order, but it was unlikely that they could be installed before 1928. At one of the meetings of the American Institute of Electrical Engineers, M. Eduard Roth stated that European engineers were confident that it was practicable to build 50-cycle turbo-alternators of more than 100,000-kva. capacity at 1500 r.p.m. and for 40,000 kva. at 3000 r.p.m.

For industrial plants, large motors were installed on an increasing scale. The Kokomo (Ind.) Steel & Wire Co. discontinued the use of steam engines for their rod mill and put in four wound-rotor induction motors of 1,200, 900, 1300, and 1500 hp. respectively. In the blooming mill of this company the steam engine formerly used was replaced by a direct-current, reversing roll motor of 3500 hp., 700 volts; a compound-wound machine designed to operate at between 50 and 120 revolutions per minute. An interesting detail of this large motor was the method of control, which was accomplished by means of two foot pedals for the speed and direction of rotation, each pedal, through the medium of a master switch, energizing the proper controls for these purposes. Rolling mill motors of as great as 7000 hp. were in use in large steel plants.

In descriptions of the large turbo-generators now common, confusion arises unless it be stated that the unit was a single machine, or a cross-compound. In the latter case two generators, one driven by a high-pressure turbine and the other by a low-pressure turbine, comprise the set.

**DYSENTERY.** In a paper by Dr. Louis A. Buie of the Mayo Foundation (*Journal of the American Medical Association*, October 16) on chronic ulcerative colitis, a somewhat rare affection closely resembling the dysenteries, the author announces his belief that the cause, which has hitherto defied research, is a micro-organism first described by Barger in 1924—a lancet shaped, gram positive diplococcus. However, the disease cannot be placed among the bacillary dysenteries, for infection according to the author does not take place from direct contact with the mucous membrane of the colon, but through the blood stream, which partly explains the relative infrequency of the disease and the fact that it does not become epidemic. A mixed form may result from local superinfection with the causal agent of amebic dysentery. During a period of two years 132 cases of chronic ulcerative colitis were treated at the Mayo Foundation, and although the disease naturally has a high mortality the results obtained show that this can be overcome. The real danger to life appears to lie in a secondary infection of the small ulcers which characterize the disease with ordinary pus-formers, which at once adds several threatening complications and gives the disease its pernicious quality. Surgery alone can save life at this stage of the disease. Only four of the 132 patients were known to have died thus far, although 18 others had not been heard from since discharge.

In regard to amebic dysentery the discovery that the *endameba histolytica* can be readily cultivated in a test-tube, which was announced in 1925, has led to further progress in this direction as announced in an editorial in the

*Lancet* for October 9. Dobell and Laidlaw recently made instructive experiments with such cultures, which are not only of great value in diagnosis for identifying the presence of the *endameba* in the stools but furnish an opportunity for the comparative study of remedies. It was found that emetine, the most useful remedy in amebic dysentery, can destroy in high concentrations, while even in feeble ones it possesses the power of slowly poisoning the micro-organism. It cannot be, however, understood why some patients with this form of dysentery do not respond in the least to this treatment. Cephaelin, the other chief alkaloid of ipecacuanha, is more toxic in the test-tube but less efficient clinically. Some cases as is well known, even severe and obstinate ones, are curable with a few enemas containing each one grain of emetin. According to the *Lancet* no disease has so many healthy carriers as amebic dysentery for it is estimated that in England alone there are 2,000,000 of these. Yet in all of this material only some two cases develop annually on English soil.

**DZERZHINSKY**, dschër-sin'ski, FELIX E. Chairman of the Supreme Economic Council in the Soviet Government, died at Moscow, Russia, July 20. Little is known of his early history, but it is assumed that he was active as a revolutionary in the days of the Nihilists and it was stated that he had spent 11 years in prison. Having been exiled to Siberia in 1914, in March, 1917, at the time of the revolution, he was a convict in a mine beyond the Ural Mountains, and being freed returned to European Russia. He was in Petrograd at the time the Provisional Government was swept away and the Bolsheviks gained power. Even before the Bolshevik revolution he had been elected to the Revolutionary Committee of the Bolsheviks, and after the consummation of the revolution he became connected with the administration of justice in a position somewhat similar to that of attorney general. It was here that he developed the idea of the Cheka as an agency both for the apprehension and trial of alleged enemies of the state and their judgment, and his scheme was approved by Lenin. This organization was effectively developed; a remarkable organization involving a spy system and a reign of universal terror as the judgments of its head were marked by severity and cruelty.

Dzerzhinsky was never popular with the masses, but his associates adored him as a man of power and organizing skill. On the day of his death he delivered a speech opposing Trotsky and his other opponents and justifying the methods that the administration were employing in remedying the defects of the Soviet industrial organization. At the end of his speech, which received great applause, Dzerzhinsky complained of feeling faint and returning to his apartment in the Kremlin fell dead. At the time of his death Dzerzhinsky was chairman of the Supreme Council of National Economy of the Soviet Republic, having been promoted to this activity from being head of the Cheka. At that time he was a member of the Central Committee of the Russian Communist Party, of the All-Russian Executive Committee and of the Soviet of Labor and Defense of the Russian Soviet Republic, of the Federation Central Executive Committee and the Soviet of Labor and Defense of the Soviet Federation. He possessed great in-

fluence over Lenin and he developed the Cheka to where its force and remorselessness were irresistible, and finally he occupied one of the posts of connection between the Third International and the Russian Communist party and the Union of Socialist Soviet Republics.

**EARTH, NATURE OF.** See SEISMOLOGY.

**EARTH, STUDY OF.** See GEOLOGY.

**EARTHQUAKES.** It is estimated that an earthquake is felt in some part of the world on an average of 4000 times annually; in the United States alone, one or two hundred usually occur each year. Fortunately, the vast majority of these are feeble and harmless, or else occur under the sea or in thinly populated districts. The year 1926 had the usual quota of quakes, many of which caused considerable damage and loss of life locally, but no great outstanding disasters occurred.

A number of villages were demolished, and many lives lost, in Sumatra during a series of shocks in June and July. Egypt and the islands of the Mediterranean and the Aegean Seas were shaken, June, 26-27, Crete and Rhodes being badly damaged; the Eolian Islands experienced a further shock on August 21. Destructive shocks damaged Foggia in southern Italy, June 28; and Horta in the Azores, August 31. A series of violent quakes in the Alexandropol district of Armenia (an active earthquake centre) during October and November destroyed many villages and occasioned considerable loss of life. Southern California was shaken by a moderately severe quake on June 29. See SEISMOLOGY; GEOLOGY.

**EAST AFRICA PROTECTORATE.** See KENYA COLONY.

**EBERLEIN,** ãhër-lin, GUSTAV. German sculptor, died at Berlin, February 5. He was born at Spiekershausen, Hanover, in 1847 and after studying at the Art Academy of Nuremberg worked at Berlin under Blaaser, a pupil of Rauch. After studying in Rome he returned to Berlin, where he became identified with the so-called realistic group of sculptors of which Reinhold Begas was the chief representative. His early important works were "Boy Extracting a Thorn" in the National Gallery, Berlin, the "Greek Flute Player," and "The Secret." Among his religious pieces were groups depicting the life of Adam and Eve, while he did the frieze of the Berlin Ministry of Public Instruction which contained 50 life-size figures. He was celebrated for the number of public monuments such as those of Emperor William I at Elberfeld, Mannheim, Altona, and Ruhrort; Bismarck at Krefeld; Richard Wagner in Berlin; and Goethe in Rome. He also did heroic statues of Queen Louise at Tilsit and King Frederick I and Frederick William III in the Siegesallee, Berlin. In 1892 he wrote: *Aus eines Bildners Seelenleben, Plastik, Malerei und Poesie.*

**ECLIPSES.** See ASTRONOMY.

**ECONOMIC ENTOMOLOGY.** See ENTOMOLOGY, ECONOMIC.

**ECONOMICS.** See LABOR; FINANCIAL REVIEW; INSURANCE; STRIKES AND LOCKOUTS; and other articles on economic topics.

**ECUADOR,** êk'wâ-dôr. A South American republic on the northwest coast of the continent between Colombia on the north and Peru on the south. Capital, Quito.

**AREA AND POPULATION.** The area in 1926 was still undetermined because of the boundary dispute with Peru, but was variously estimated by

six different authorities at from 116,000 to 276,000 square miles. The population has been recently estimated at approximately 2,000,000, about three-quarters of whom were Indians and the remainder of mixed blood. The last official census in 1903 placed the population at 1,328,821. The chief towns with their populations are: Quito, 80,702; Guayaquil, 100,000; Cuenca, 30,000; Rioamba, 12,000; and Ambato, Loja, and Latacunga, each with about 10,000 inhabitants.

**EDUCATION.** Elementary instruction is free and compulsory. No later statistics are available than those given in the preceding YEAR BOOK, when there were 1488 schools in operation, 1170 of which were government schools, 127 municipal, and 191 private. The total attendance was 101,378 and the number of teachers 1838. Institutions of higher learning include Central University at Guayaquil, and Azuay University at Cuenca, and a Law College at Loja.

**PRODUCTION.** The chief source of wealth of the country is cacao. The production in 1924 was 564,840 hundredweight as compared with 546,948 in 1923. Other crops are coffee, rubber, ivory nuts, tobacco, and sugar. Ecuador has practically monopolized the manufacture of Panama hats, which are produced at the rate of 700 dozen per month. The mineral resources include gold, silver, petroleum, copper, iron, lead, coal, and sulphur, but mining is almost exclusively confined to gold, of which practically the whole output is exported to the United States.

**COMMERCE.** The accompanying material on the commerce of Ecuador was published in 1926 by the Pan American Union. The total foreign trade of Ecuador for the year 1924 amounted to 113,270,860 sucres, represented by imports to the value of 52,002,941 sucres, and exports of 61,267,919 sucres. For the preceding year, 1923, the figures were: Imports, 36,804,758 sucres; exports, 38,386,359 sucres; total, 75,191,117 sucres. There was, therefore, an increase in imports of 15,198,183 sucres, and in exports of 22,881,560 sucres, or a total increase in the trade of 38,079,743 sucres.

Expressed in United States currency, estimating the sucre at 48.6 cents (10 sucres = £1); the foreign trade in 1924 was: Imports, \$25,273,429; exports, \$29,776,209; total, \$55,049,638. The figures for the year 1923 were: Imports, \$17,887,112; exports, \$18,655,770; total, \$36,542,882.

TEN-YEAR TABLE OF FOREIGN TRADE

Year	Imports	Exports	Total
1915	\$8,408,143	\$12,895,069	\$21,303,212
1916	9,330,171	17,569,691	26,899,862
1917	10,176,887	16,309,195	26,486,082
1918	8,111,690	13,364,774	21,476,464
1919	11,667,736	21,005,191	32,672,927
1920	21,138,476	24,247,478	45,385,954
1921	11,414,285	16,506,885	27,921,170
1922	16,243,499	22,407,980	38,651,479
1923	17,887,112	18,655,770	36,542,882
1924	25,273,429	29,776,209	55,049,638

**FINANCE.** The revised national budget for the year 1926 as approved, provided for receipts and expenditures to balance at 41,988,000 sucres. Principal receipts are from export and import duties and the estimated funds from this source were 11,000,000 sucres. The chief items of expenditure were 9,000,000 sucres for public works and 7,400,000 sucres for the army. A new customs tariff law was established in Ecuador by decree of the provisional president and became effective on June 10, 1926, in regard to export

duties and on July 1 in regard to import duties. The primary purpose of this tariff revision is to augment the revenue of the government which has suffered from the downward trend of the sucre during the past few years. A secondary motive is the protection of such industries as have been established in the country, including woolen and cotton mills, shoe factories, and a nail factory. Duties on exports have been reduced in order to promote the country's export trade. An important feature of the new tariff is the change in form and structure of the schedules, and the new provisions for customs procedure. The rather archaic form of the old tariff has been abandoned and in its place is one more logical, systematic, and up to date.

**COMMUNICATIONS.** For the year ended June 30, 1925, 488 vessels of 1,178,010 tons entered at the port of Guayaquil and 486 vessels of 1,181,381 tons cleared. The steamships of nine European lines visit Guayaquil by the way of Magellan Straits, and the port is also visited by steamers plying on the Pacific Coast. In 1923 the total length of railways in operation was 413 miles.

**GOVERNMENT.** Executive power is vested in a president elected for four years, who acts through a cabinet of five ministers, and legislative power in a congress of two houses, a senate of 32 members and a chamber of deputies of 48 members. At the beginning of 1926 there was no president because of the coup d'état executed on July 9, 1925.

**HISTORY.** As noted in the preceding YEAR BOOK, there was a bloodless revolution on July 9, 1925, which succeeded in driving the constitutionally elected president, Dr. Don Gonzalo Cordova, from office. A military junta was established under the leadership of General Gomez de la Torre, Luis Napoleon Dillon, and José Rafael Bustamante. This military government established Modesta Larrea Jijon as premier and held power throughout the remainder of the year, and it was not until January 13, 1926, that the military government was replaced by a civil organization. On April 2, Dr. Isidro Ayora became the head of the council of government of Ecuador, to hold office until May 24, when the constituent assembly was to elect a president to succeed the overthrown Dr. Cordova. At the end of the year, however, he was still acting president. About the same time it was announced that Professor Kemmerer, of Princeton University, was engaged by the government to reorganize the state financial system. He had already accomplished considerable results in reorganizing the financial systems of Poland, Colombia, and Chile, and was expected to go to Bolivia after his work in Ecuador was completed.

It was announced in the spring that important archaeological explorations had been made in the Huaca Mountains in the province of Carchi, where bones and pottery of prehistoric ages had been unearthed. The government planned to organize an expedition on a large scale to completely explore the region.

**EDGEWORTH, FRANCIS YSIDRO.** British economist and emeritus professor of political economy at Oxford, died at Oxford, February 14. He was born at Edgeworthstown, Ireland, February 8, 1845, and after studying at home attended Trinity College, Dublin, and Balliol College, Oxford, where he took honors. He was lecturer on logic, and afterwards Tooke Professor

of Political Economy at King's College, London, holding the latter chair until 1891. He was a fellow of King's College, London, also of All Souls College, Oxford, becoming professor of political economy at Oxford, a chair he held until he was made emeritus. He was a fellow of the British Academy and at one time president of the Royal Statistical Society, and joint editor of the *Economic Journal*. He had a wide range of learning, being not only an accomplished mathematician and deeply read in foreign literature and the classics as well as in economics, but also manifested a keen interest in the developments of the physical sciences. He was the author of: *Mathematical Psychics* (1881); articles on Probabilities, Statistics, and Economics in the *Philosophical Magazine*, *Journal of the Statistical Society*, *Economic Journal*, and other periodicals.

#### EDUCATION IN THE UNITED STATES.

**ENROLLMENT AND ATTENDANCE.** At the end of 1926 the latest available statistics for Education was for the school year ending June, 1924. The United States Bureau of Education reported enrollment and attendance as follows: Enrolled in public and private kindergartens 618,819 pupils, of whom 564,363 were in public school kindergartens. The number of pupils in private kindergartens had gradually decreased, while the numbers in public institutions had greatly increased. Reports showed, however, that less than 13 per cent of children of kindergarten age (four and five years) were enrolled. The average daily attendance in both public and private institutions was 366,718. In the public kindergartens the average daily attendance was about 59 per cent. In kindergartens where tuition is often charged the attendance was about 67 per cent of the enrollment.

The enrollment in the public elementary schools in grades one to eight inclusive was 19,891,087. The enrollment reported for private and parochial elementary schools was 1,473,145. Of each 1000 pupils enrolled in the public elementary schools 206 were in the first grade. For the next three grades the enrollment was fairly uniform being 139 for the second grade, 138 for the third and 133 for the fourth. The compulsory school attendance laws in some states are such that children may withdraw when they have reached the age necessary to attend the fifth grade and only 120 of each thousand were enrolled in this grade. The decrease in enrollment from the fifth grade on was very pronounced. In the sixth grade there were 105 of each thousand, in the seventh grade 91 and in the eighth grade only 68 remained. About one-half of the children who entered the elementary school remained to complete the eighth year.

The United States Bureau of Education compiled statistics relating to the enrollment of 1,877,949 colored children in 16 states. Among each 100 children who were enrolled in the eight grades of the elementary school 34 were in the first grade, 17 in the second, 15 in the third, 13 in the fourth, 10 in the fifth, 6 in the sixth, 4 in the seventh and only 1 in the eighth grade.

The public schools were in session an average of 168 days, and the average pupil attended 132.5 days.

A total of 3,176,074 high school students were reported. The number of secondary students had doubled since 1915. Of each thousand students 392 were in the first year, 271 in the second

year, 192 in the third and 145 remained in the fourth year. At no previous time had the high schools carried as many of the students through the entire four years. When the class that was graduated in June, 1924, entered school in September, 1913, there were 3,922,183 pupils. When this class reached the last year of the elementary school in 1920 there were 1,220,012 pupils. Of this number, it was estimated that 1,019,686 entered the high school, and 459,156 continued through the entire four-year course.

For the school year ending in June, 1924, a total of 2124 private high schools and academics reported to the United Bureau of Education. Of these, 1553 were denominational and 591 were non-sectarian. The denominational schools reported 160,418 students and the non-sectarian 57,998.

The cities of 10,000 population and more reported 696 junior high schools with an enrollment of 499,964 students and an average daily attendance of 428,722.

In the cities of 10,000 population and more there were 2155 special schools for the deaf, the blind, the feeble-minded, etc. These schools enrolled 72,176 pupils and had an average daily attendance of 59,891. Of these cities 422 reported night schools and 126 Americanization classes. The enrollment in the Americanization classes was 182,814.

**TEACHERS.** The kindergartens and elementary schools employed 617,078 different teachers while the high schools and local normal schools and vocation schools employed 144,230 teachers. This made a total of 761,308 who were employed during the school year. There were 748,309 teaching positions. In the public high schools there was one teacher to every 22 students. In the private high schools each teacher had only about 14 students.

**INCOME.** The total revenue receipts for the State school systems for the school year ending June 30, 1924, were \$1,618,437,825. This was derived as follows: From permanent school funds and leases of school lands 1.5 per cent, taxation and appropriations 93.8 per cent, and from other sources 4.7 per cent. Of money raised by taxation 16.3 per cent came from the state, 10.2 per cent from the county, and 73.5 was derived from local taxation.

There was wide variation among the States in regard to the sources from which the school funds were derived. Delaware secured 77.3 of its receipts from taxation from the State and the remainder from local taxation. Kansas on the other hand depended upon State taxation for only four-tenths of one per cent of its receipts, the remaining 96.6 per cent of the receipts from taxation was from local taxation. Louisiana secured 70.8 per cent of its receipts from taxes from the county and only 2.3 per cent from local taxation.

**COSTS.** The value of all property used for school purposes totaled \$3,744,780,714. The value of sites and buildings was \$2,783,980,933 and the value of equipment was \$279,288,113. The value of school property per pupil enrolled varied from \$39 in Mississippi and Georgia to \$272 in Nevada. The average for the country was \$154.

The school bonds outstanding and other forms of debts amounted to \$1,446,621,583 against which there were sinking funds amounting to \$82,839,791. It appears therefore that only a

little more than half of the school property was free from debt. The public schools paid interest amounting to \$58,962,573 and \$8,908,508 was transferred to sinking funds. The total amount paid on indebtedness was \$90,055,335. Only four states reported no indebtedness. These were: Connecticut, Kentucky, Louisiana and Maine.

The total current expenses, excluding outlays for new buildings, sites and equipment were \$1,432,274,793, divided as follows: General control 3.8 per cent, instruction 70.3 per cent, and miscellaneous current expenses 25.9 per cent.

The outlays for new buildings, sites and new equipment were \$388,409,143 and the payments on debts including sinking funds were \$117,251,169. This made the total expenses of the state school systems \$1,937,995,105. Of this amount \$305,314,829 was secured from loans and bond issues.

The cost of education per pupil attending school varied from \$25.30 in Mississippi to \$170.94 in Nevada. The average for all of the states was \$95.16. In 1900 the expenditure per pupil in average attendance was \$20.21, in 1910 it was \$33.23 while in 1920 it was \$64.15. In 1923-24 the average total expenditure per day for each pupil attending was 56.6 cents.

**PRIVATE, COMMERCIAL AND BUSINESS SCHOOLS.** The United States Bureau of Education published the following statistics for private, commercial and business schools for the school year 1924-25: The number of private schools had decreased since 1920. In that year 903 institutions reported to the Bureau an enrollment of 336,032 students. For 1924-25 only 739 schools reported, and these had an enrollment of 188,363 students. The reduction in the number of day students was about 40 per cent, and in night students 51 per cent. The stenographic course with an enrollment of 71,173 students is the largest. Next comes the bookkeeping course with 41,717 students. The secretarial course with 23,832 students showed the only increase in enrollment.

There were 20 public commercial and business high schools enrolling 35,120 students. In addition there was in 1924 a total of 3742 public high schools in which 430,975 students were enrolled in commercial courses and 740 private high schools enrolling 11,941 students.

**EDUCATIONAL COSTS.** The increasing costs of public education was causing much concern among the school administrators of the country. In various cities there had been pronounced efforts to economize. In some cities there had been a change in the organization of the high schools so as to reduce the number of small classes and to increase the number of students per teacher. In the country as a whole, however, the number of high school students had decreased since 1900. In that year there was an average of 25 students per teacher. Now the average is 22.1 pupils.

There was a widespread belief that economies must be introduced into the administration of high schools. Often one heard the suggestion that tuition might be charged for secondary education. This plan had not been proposed for adoption in any city or state, but it will not be surprising if this should become a real issue in near future.

There was an insistent demand that the schools assume added responsibilities. No matter how desirable these newer ventures in education may be, they always tend to increase the expense of



the school system. Kindergartens were increasing, and there was a strong emphasis upon the care of younger children in pre-kindergarten or nursery schools. During several years many school systems spent considerable amounts in the revision of the courses of study. Some of the cities made permanent provision for bureaus of curriculum revision.

The consolidation of rural schools had been under way for a number of years. In 1923-24 the United States Bureau of Education reported a total of 14,134 consolidated schools, while there were still 157,034 one-room school buildings. During the period of unusual prosperity some sections constructed consolidated school buildings that cost very large amounts. Usually the money for these new buildings was obtained by bond issues. Now with the decline in agriculture some of the consolidated districts find themselves with serious financial problems.

Early in 1926 a National Commission on Economy and Efficiency of the Business Administration of School Systems was appointed by the joint action of Secretary of Commerce Hoover, Secretary of the Interior Work, and Dr. Frank W. Ballou, at the time president of the Department of Superintendence of the National Education Association. The purpose of the commission is contained in the following statement:

It is the unanimous opinion of the members of the commission that, although the American people have faith in the public schools, the cost has become so great that approval of continued rapid expansion along present lines is by no means unanimous. There is an insistent demand for the adoption of the fundamental principles of good business management in the administration of all school systems. It is felt that while the taxpayers are ready and willing to meet the present annual bills they will only agree to any considerable increase in those bills if they can be assured that the money is being expended wisely and that the product is the best that money can buy.

For these reasons the first questions which will be dealt with by the commission will have to do with a comparison of present-day methods of school administration with the practices in vogue in large industrial and commercial establishments. By such comparisons the commission hopes to point out economies which might be effected without any depreciation of the quality of the education given. Such economies would result in making additional funds available for the expansion of the school plant without adding to the present burden of the taxpayers.

The annual cost of public education has nearly doubled during the past five years and is almost four times as great as it was in 1915. Some of this unusual increase can, of course, be explained by the loss in the value of the dollar and by the rapid growth in school attendance, but by no means all of it. Some of it has certainly been due to a growing insistence on the part of the public for more and better schools, modern equipment, greater play facilities, increased extra-curricula activities, better pay for teachers in order to obtain better teachers, an expansion of health conservation facilities such as dental and medical clinics, and a host of other demands indicating a very positive belief in the public school as an institution which is essential to the welfare and progress of the nation.

**STATE EDUCATIONAL SYSTEMS RANKED.** Dr. Frank M. Phillips using an index number method has ranked the State education systems as reported in *The United States Daily*. Dr. Phillips took into consideration the following items:

Percentage of school population from 5 to 17 years of age, inclusive, in daily attendance; average days attended by each child 5 to 17 years of age, inclusive; average number of days on which schools were in session; percentage of the total enrollment in high schools; ratio of boys and girls in high schools; average expenditure per teacher employed; expenditure per child attending the schools; average expenditure per teacher employed; expenditure per pupil for purposes other than teachers' salaries, and expenditures per teacher for salaries.

The ranking of the States educationally on the foregoing basis was as follows: 1, California; 2, Nevada; 3, New York; 4, New Jersey; 5, Ohio; 6, Michigan; 7, Colorado; 8, Wyoming; 9, Massachusetts; 10, Washington; 11, Minnesota; 12, Arizona; 13, District of Columbia; 14, Connecticut; 15, Oregon; 16, Illinois; 17, Indiana; 18, Wisconsin; 19, Pennsylvania; 20, South Dakota; 21, Rhode Island; 22, Kansas; 23, Iowa; 24, Utah; 25, Nebraska; 26, North Dakota; 27, Maryland; 28, Delaware; 29, Idaho; 30, Montana; 31, New Hampshire; 32, Maine; 33, Missouri; 34, Vermont; 35, Oklahoma; 36, West Virginia; 37, New Mexico; 38, Florida; 39, Texas; 40, Louisiana; 41, North Carolina; 42, Virginia; 43, Kentucky; 44, Tennessee; 45, Georgia; 46, Alabama; 47, Mississippi; 48, South Carolina; 49, Arkansas.

**TEACHER SUPPLY.** There were evidences in 1926 that the supply of teachers was rapidly exceeding the demand. In some States only about one-half of the graduates from the normal schools and teachers colleges in June found employment as teachers. The same conditions existed in some of the city training schools. As reported by the United States Bureau of Education there were in 1923-24 a total of 748,309 teaching positions in the State school systems. During the same year 418,533 were preparing to teach. Of these 253,747 were enrolled in the regular sessions and 191,311 were in summer sessions. It was estimated that the various institutions turned out no less than 107,488 prospective teachers. It is evident therefore that during that year there was a possibility of replacing one teacher in every seven in the public schools by a recent graduate from the teacher training institutions.

In addition to those who were available from the teacher training schools it was reported that many of those who left teaching to take up business or commercial positions were returning. The initial salaries that are paid to teachers are such as to attract to teaching many who do not expect to continue teaching. In New York City there is a group of young men teaching in the elementary schools. Few if any of these intend to remain as teachers. They are using the salaries that they receive from teaching to prepare themselves for positions in the professions.

Of the 382 teacher institutions that were reported, 88 were teachers' colleges. These colleges have attracted many students who have no desire to teach but take this method of obtaining a college education. In some States it is evident that the introduction of teachers' colleges has been closely equivalent to establishing institutions that parallel the purposes of the State university.

One effect of the surplus of teachers is the attempt on the part of various institutions to raise admission requirements and to raise the standards of the institutions itself.

Another effect has been the efforts on the part of a number of cities and villages to decrease the salaries of teachers. Few of these attempts have been successful. The salaries of teachers are so controlled by State laws that it is difficult to decrease them, but it is a question as to whether the increasing surplus of teachers will not force a decrease in salaries.

Some States are making vigorous efforts to raise the requirements for certification to teach. Usually the rights of those who have been certificated are such that only those who enter teaching have been greatly affected by such changes.

**RELIGIOUS INSTRUCTION.** The right of city boards of education to dismiss school children for periods of religious instruction outside of



the school was before the New York State courts. The practice of excusing children from the public schools to attend religious instruction in the churches or institutions selected by their parents was found in more than 125 cities and villages in the State. Early in 1926, the president of the Freethinkers' Society sought a writ of mandamus to compel the Commissioner of Education to require the Board of Education of White Plains to discontinue their practice of permitting public school children to attend religious instruction for one hour a week during school hours in the various churches and places provided for such instruction. The Justice in the Supreme Court in which the case was argued decided in favor of the defendants. He stated the following propositions:

That the right of the parent to direct the training and nurture of the child is a fundamental right;

That the obligations of citizenship require the promotion of a spirit of patriotic and civic service and the fostering in children of moral as well as intellectual qualities;

That the religious conscience, conviction, and accountability are the least dispensable foundations for good citizenship and real patriotism;

That the moral growth and intellectual growth go hand in hand to make the essential elements of character and good citizenship;

That the right of the State to enforce school attendance does not mean that the mental and moral development of all children must be standardized;

That the regulation (the Board's ruling dismissing the children for religious instruction) does not require a union between church and state or teach any sectarianism in the school or invade the religious freedom or conscience of any individual.

The case was carried to the Appellate Division of the Supreme Court. The counsel in behalf of the appeal attacked the constitutionality of the State statute under which the Commissioner of Education had ruled that the Board of Education of White Plains might excuse pupils for religious instruction outside of the school. It was declared that this was in conflict with the compulsory education law which the Commissioner of Education was required to enforce. The law was also attacked as subversive of the fundamental constitutional provision for divorce of church and state.

Counsel for the State department argued that "to refuse to permit children to absent themselves from their regular school work for religious instruction would be an interference with the constitutional guaranty of freedom of worship and religious liberty."

The appeal was dismissed, but it was announced that the case would be carried to higher courts.

**EDUCATIONAL MOTION PICTURES.** The Eastman Kodak Company was conducting a teaching experiment with classroom films, in ten cities. The purpose of the experiment was set forth in a following quotation from a letter written by George Eastman, president of the Eastman Kodak Company to Will H. Hays, president of the Motion Picture Producers and Distributors:

For the last three years the Eastman Kodak Company has been making a survey of the use of motion pictures in teaching as a supplement to text-books to find out what has been done and what promise there was of future sound development. Such films were not practicable until an easily operated projector and economical films were available to schools.

The survey led us to the conclusion that very little had been accomplished in producing teaching films suitable for classroom use and that there was little prospect of any organization with the necessary resources attempting to solve the problem. Therefore, after full con-

sideration, the company has decided to approach the solution of this problem in an experimental way.

It proposes to make a number of teaching films closely correlated with selected courses and in accordance with a definite educational plan. These films will be prepared with the advice and assistance of competent educators and will be put into a limited number of representative schools in different cities for trial in their classrooms. As the work of production goes on, the company will thus have definite information as to whether the right sort of films are being made.

In making this announcement the company wants it to be clearly understood that it will have no apparatus or films for sale to schools during this experimental period, which will take about two years. Any future developments will be determined by the success of these experiments. The company leaves itself free to discontinue this undertaking if at any time it feels that there are insurmountable obstacles to its success.

The Kodak Company was producing films for the study of geography, health and hygiene, civics, fine and practical arts and general science in the fourth, fifth, and sixth grades and the junior high schools.

The cities in which the experiment is being tried are Rochester, Detroit, Chicago, Kansas City, Denver, Los Angeles, New York, Springfield, Mass., Atlanta, and Winston-Salem, N. C.

**THE PAN-PACIFIC EDUCATION CONFERENCE.** In the early part of 1926, Congress authorized and requested the president to call a Pan-Pacific Conference on Education, Rehabilitation, Reclamation and Recreation. The act provided that the conference shall be organized and conducted by the Secretary of the Interior. The conference will be held in Honolulu, Hawaii, April 11 to 16, 1927. The members of the conference will discuss the mutual problems relating to education, reclamation, rehabilitation and recreation. The Secretary of State has issued invitations to the nations bordering on the Pacific Ocean or having territorial interests in the Pacific.

**WORLD FEDERATION OF EDUCATION ASSOCIATIONS.** The second biennial conference of the World Federation of Education Associations was announced to be held in Toronto, Canada, Aug. 7-12, 1927. The first meeting of the Association was held in Edinburgh, Scotland. At that meeting various committees were appointed and these were to report at the Toronto meeting. Among these were to be reports on International Athletics; Military Training; Text-Books; Co-operation for Peace, and Peaceful Means Used to Settle International Difficulties. The tentative programme included a wide range of educational topics and many well-known men and women were to speak. Plans had been made to care for about 5000 delegates and others.

**ADULT EDUCATION.** During recent years there has been much discussion regarding adult education. In many cases attention has been centred upon the teaching of illiterates, although there are various clubs and classes that meet the needs of particular groups. The Carnegie Corporation conducted an extensive survey of existing adult education enterprises, and secured the judgments of those who were interested in the work. In response to the needs that were indicated by the survey the American Association for Adult Education (q.v.) with offices at 41 East 42nd Street, New York City, was organized. A statement issued by the Association contains the following:

The studies which preceded the organization of the association revealed an active and widespread interest in adult education. Though often unconscious that they were pioneers in a new movement across intellectual frontiers, adults were pursuing education. There has

been adult education in the country without an association and before one was thought of. Perhaps its highest value lay in that it had arisen on impulses generated from within rather than stimulated from without. In small spontaneously formed study groups, in workers' classes, in institutes and forums or university extension classes, throughout the country, men and women were occupied in studying in their leisure hours.

Early in 1926 a series of conferences was held in New York, San Francisco, Chicago, Nashville and Cleveland to consider what deductions might be made from these facts. To the conferences came, not those with interests at large or those interested habitually in new movements, but men and women professionally engaged in adult education. They expressed the belief that an organization, which sought not to centralize, standardize or impose uniformity, but to serve as a clearing house of information and ideas, a centre of discussion and a repository of the records and practices of the profession, would further the idea of adult education and give assistance to adult educators and students.

An organization was formed and its offices are now open, with Morse A. Cartwright as executive director and an executive board which reflects the differences in point of view and practice to be found in the field. It is to be the association's policy to proceed slowly and to make progress enduringly rather than swiftly. Its first object will be to establish relations with those engaged in adult education, whether as teachers or students; groups, schools and individuals are eligible to membership. Preliminary to opening the association's offices, Mr. Cartwright attended a conference of the World Association for Adult Education in Copenhagen last August and put himself in touch with adult educators in European countries, where there is a much larger body of experience than here.

The association plans no campaigns, no drives. It will seek to put on record the efforts at adult education already begun, and stand ready to give them what assistance it can. Similarly it will stand ready to give advice and assistance to those which are in prospect or contemplation. It will publish pertinent material at intervals and convene conferences when subjects vital enough press for discussion. Most of all, it will seek to accumulate a body of material bearing on the problems of adult education to which all those facing such problems may resort.

The association in coöperation with the New School for Social Research in New York City opened courses dealing with the Fundamental Problems in Adult Education, Method and Content of Adult Education, Practice Course and Educational Psychology.

**EGYPT.** A kingdom in northeastern Africa, governed by a King since Mar. 15, 1922, after the termination of the British protectorate declared Dec. 18, 1914; occupying the valley of the Nile, the Libyan desert, the region between the Nile and the Red Sea and the Sinai peninsula; claiming jurisdiction also over the Sudan, which claim, however, is denied by the British. Capital, Cairo.

**AREA AND POPULATION.** The total area of Egypt proper which is described above is about 383,000 square miles. This figure does not include the Sudan. The cultivated and settled area, comprising the Nile valley and delta, is only 12,023 square miles. The last census of the settled area, taken in March, 1917, gave the total population at 12,750,918; estimated in March, 1925, at 14,055,000. The chief cities with their populations at the census of 1917 are: Cairo, 790,939; Alexandria, 444,617; Port Said (including Ismailia), 91,090; Suez, 30,996; Tanta, 74,195; Mansura, 49,238; Asyut, 51,431; Damanhur, 47,867; Fayum, 44,000. In the same year the population was distributed among the various religions as follows: Mohammedans, 11,058,148; Greek Orthodox, 854,778; Roman Catholic, 107,687; Jews, 59,581; Protestants, 47,481. The movement of population in 1924 was: Births, 604,410; deaths, 343,515.

**EDUCATION.** Primary instruction is supplied by native schools called *Maktabs*. In 1924-25 the number of these receiving grants-in-aid and

under government inspection was 2801, with 5632 teachers and 218,428 pupils, while those under the immediate direction of the government in 1925 was 407 with 33,378 boys and 19,640 girls in attendance. In addition there are higher elementary and higher primary schools, a few schools for special and technical training, and higher colleges of law, engineering, military science, veterinary science, agriculture, pedagogy, commerce and accounting, medicine, and agriculture. The total number of schools under the control of the provincial councils in January, 1925, was 3461, with 285,112 pupils, while those directly under the ministry of education had an attendance of 82,842. The centre of Moslem culture is the mosque and university of El-Azhar at Cairo.

**PRODUCTION.** The number of landowners in Egypt has steadily increased during the last decade, and a decreasing percentage of this number are foreigners; the 1925 total was 2,040,000, of whom less than 7000 were non-Egyptians. Efforts have been made to compel farmers to introduce the three-year crop rotation system, but the difficulties of enforcement are such that it will be cropped with cotton at least every second year. New enactments expected to have far-reaching effects on agricultural conditions were the prohibition of the mixing of different varieties of seed and the appropriation of £E4,000,000 to inaugurate the agricultural financing scheme by which four-per cent loans will be made to small farmers. After the opening of the Sennar Dam in January, 1926, there was considerable discussion as to whether extension of irrigation in the Sudan will effect Egypt's water supply, but as the appropriations for furthering this construction have been partly canceled for 1926, the problem is not a pressing one.

The cultivable area of Egypt was estimated at 8,070,186 feddans (1 feddan equals 1.038 acres) in 1924, and of this 2,936,698 were uncultivated because of want of reclamation. The cotton area and crop for 1924-25 was 1,787,843 feddans and 7,273,974 kantars. See *COTTON*. Other important crops with figures for 1924 are: Wheat, 1,415,883 acres and 930,387 tons; barley, 372,206 acres and 234,144 tons; beans, 452,424 acres and 267,003 tons; lentils, 75,961 acres and 47,498 tons; onions, 40,770 acres and 261,079 tons; maize, 1,877,662 acres; millet, 238,901 acres; rice, 254,923 acres; sugar cane, 53,463 acres. Also see Table of Production by Countries under article *AGRICULTURAL*. The principal mineral products in 1924 in metric tons were phosphate rock, 87,869; petroleum, 163,341; and manganese iron ore, 150,194. Other products are building stone, clay, carbonate and sulphate of soda, gypsum, nitrate, shale, salt, talc, turquoise, ochres, etc. Manufacturing in Egypt is still in its infancy, but indications point to systematic and more rapid development during the next decade. Although the cigarette industry is one of the most important in the country, no tobacco is raised in Egypt, but \$7,000,000 worth is imported annually.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, in 1925, for the fourth consecutive year, Egypt's trade showed an export surplus, although, because of the slow export movement of the 1925-26 cotton crop and a very marked advance in commodity imports the amount of this favorable

balance was only a small fraction of the average of the three preceding years (£E13,025,698). During the first six months of 1926, however, not only did exports and reexports continue to decrease, totaling £E23,189,000 as compared with £E31,746,000 in the first half of 1925, but imports also dropped off slightly, totaling £E24,744,000 as compared with £E26,487,000 in the first half of 1925. This fall, caused almost wholly by continued lower cotton prices, has at last converted the four-year export surplus into an import surplus, amounting to about £E1,500,000 in the first six months of 1926 and to nearly £E4,000,000 in the first seven months of the year. In spite of this fact, business conditions continued firm. The accompanying table from the above mentioned source shows the exports and imports for the year 1925 and the first half of 1926:

VALUE OF EGYPT'S FOREIGN TRADE  
(In thousand Egyptian pounds \*)

	1925	1926 (January-June)
<b>Imports</b>		
Yarns and textiles . . . . .	17,966	6,464
Metals and metal ware . . . . .	8,472	4,367
Cereals, flour, and agricultural produce . . . . .	7,101	3,180
Wood and coal . . . . .	4,840	1,850
Chemical and medicinal products and perfumery . . . . .	4,205	1,418
Spirits, beverages, and oils . . . . .	3,558	1,861
Colonial produce and general groceries . . . . .	3,168	1,245
Animals and animal food products . . . . .	1,868	822
Other animal products . . . . .	66	32
Stone, earthenware, and glassware . . . . .	1,638	779
Tobacco, tumbac, and cigars . . . . .	1,473	800
Paper and printed matter . . . . .	1,032	513
Hides, skins, and leather goods . . . . .	663	333
Dyestuffs and colors . . . . .	398	199
Miscellaneous . . . . .	1,777	822
All others . . . . .	....	59
Total . . . . .	58,225	24,744
Equivalent in dollars . . . . .	288,214	123,225
<b>Exports</b>		
Yarns and textiles . . . . .	52,025 <sup>b</sup>	18,459 <sup>b</sup>
Cereals, flour, and agricultural produce . . . . .	4,795	2,531
Animals and animal food products . . . . .	527	152
Spirits, beverages, and oils . . . . .	394	444
Cigarettes . . . . .	383	171
Hides, skins, and leather goods . . . . .	248	126
Metals and metal ware . . . . .	225	286
Colonial produce and general groceries . . . . .	204	71
All others . . . . .	398	194
Total domestic . . . . .	59,199	22,434
Reexports . . . . .	1,270	785
Total exports and reexports . . . . .	60,469	23,169
Equivalent in dollars . . . . .	299,322	115,382
Surplus . . . . .	2,244	1,575
Equivalent in dollars . . . . .	11,108	7,848

\* Exchange rates, used for conversion of totals, are: 1925, \$4.95; 1926 (first six months), \$4.98.

<sup>b</sup> Including raw-cotton exports, amounting in 1925, to 6,423,939 kantars (288,630 metric tons), valued at £E51,659,806 in 1926 (first six months), to 8,357,934 kantars (150,870 metric tons), valued at £E18,385,488.

**FINANCE.** The budget estimates for 1925-26 were: Revenue £E30,870,000; expenditure, £E30,288,266. The estimated surplus of £E581,734 was expected to be considerably exceeded by the actual receipts. Customs receipts for the year amounted to £E12,342,000. It is noteworthy that while most governments were heavily burdened by debts, Egypt enjoyed an enviable position. The total debt, as of Mar. 31, 1926, was only £E91,976,000 (\$458,040,000), and 57 per cent of

this total was held in the country as compared with 14 per cent in 1919. Moreover, it is largely counterbalanced by the rapidly growing government reserve fund, which amounted on the above date to \$127,786,000, as compared with \$89,172,000 at the beginning of the fiscal year, 1925-26. The exchange value of the Egyptian pound continued to rise, averaging \$4.95 in 1925 and \$4.98 in the first eight months of 1926.

**COMMUNICATIONS.** Steamships, exclusive of warships, etc., entering the ports of Egypt in 1924, numbered 8037 of a net tonnage of 25,735,955 and 8058 steamers of 25,794,724 net tons cleared. The figures for steamships include the transit of the Suez Canal (q.v.). Sailing vessels entered numbered 2306 of 136,847 net tons; cleared, 2199 of 127,240 net tons. On Mar. 31, 1925, there were (exclusive of sidings) 2272 miles of rails belonging to and operated by the state, and 852 miles operated by private companies. The greater part of the private and approximately one-half of the state railways are in the delta region.

**GOVERNMENT.** According to the constitution proclaimed Apr. 20, 1923, Egypt was declared a sovereign state under a hereditary monarchy, with a representative government. Equal rights, irrespective of race, language, or religion, were guaranteed, as was the liberty of the individual and religious belief. Executive power was vested in the king, who also exercises legislative power in concurrence with the legislature. The latter was to consist of a senate and a chamber of deputies, the senate to be composed of three-fifths elected by universal suffrage and two-fifths appointed by the king (the term of office is ten years; one-half is renewed every five years); and the chamber of deputies to consist of members elected by universal suffrage for five years. The king can dissolve the chamber of deputies to which the ministers are jointly and separately responsible. Mohammedanism is the state religion and Arabic the official language. The king in 1926 was Fuad I, who acceded Mar. 15, 1922. The cabinet as reconstructed in September, 1925, was made up as follows: Prime Minister and Minister of Foreign Affairs, Ahmed Ziwari; Interior, Helmi Issa; Finance, Yehia Ibrahim; War, Moussa Fouad; Education, Ali Maher; Communications, Mohammed Tewfik Rifaat; Public Works, Ismail Sirri; Agriculture, Nakhla el-Motéi; Wakfs, Mohammed Tewfik Rifaat.

## HISTORY

**SITUATION AT THE BEGINNING OF THE YEAR.** The year opened with the struggle between Ziwari Pasha, the pro-British prime minister, and Zaghlul Pasha, his bitter opponent, unabated. The prime minister announced on January 12 that he intended to hold the elections for a new parliament as soon as possible and that direct voting would prevail. He stated that if possible the elections would be held in April and a meeting of the legislature would assemble in the following month. The opposition parties held a meeting on February 19 in the face of government prohibition and bitterly attacked the Ziwari government, stating that it was unconstitutional and also debating the question as to whether the opposition parties should participate in the forthcoming election or wait until King Fuad had appointed another cabinet. This procedure was finally rejected and the three

opposition parties determined to unite on a single candidate in each district so as to present as much strength against the government as possible.

Early in the year John D. Rockefeller, Jr., presented a plan through Prof. James H. Breasted, by which he would donate to Egypt the sum of \$10,000,000 for the erection of a suitable building at Cairo to house the tremendous mass of archaeological exhibits which had been unearthed in Egypt in recent years. The proposition was submitted to legal advisers by the government and considerable comment both pro and con ensued in the press. Many Egyptian nationalists took the stand that the offer should be rejected on the grounds that it more or less smacked of charity on the part of the oil king. The chief objection on the part of the government was the fact that one of the principal conditions of the gift was the fact that the administration of the work under the gift should be in the hands of a committee for 33 years, which committee should consist of eight members, two each from the United States, Great Britain, France, and Egypt. So much opposition to the plan developed that Mr. Rockefeller finally withdrew his offer on April 27.

**THE ELECTIONS.** The long-awaited for elections were finally held on May 22, and, as had been confidently expected by the opposition parties, resulted in a complete defeat for the forces of Ziwar Pasha. Zaghlul almost immediately thereafter announced his intention of forming a cabinet of his own, but was finally dissuaded and stepped aside in favor of his ally, Adly Pasha. It was only by this means that the opposition was able to hold the fruits of its victory, because it was common gossip that Great Britain, acting through her representative in Egypt, Lord Lloyd, would never permit a Zaghlul ministry. Needless to say, this called forth a large amount of comment in the press the world over as to whether Egypt was a sovereign state or whether she was still a puppet and pawn of Great Britain. The cabinet as ultimately formed on June 6, consisted of the following members: Premier and Minister of the Interior, Adly Pasha; Foreign Affairs, Abd-el Khalek Sarvat Pasha; Finance, Morcos Hanna Pasha; Justice, Zake Pasha Abd-el Seoud; War, Kamel Bey Khasaba; Communications, Mohammed Pasha Mahmoud, Pious Foundations, Neguib Pasha Gharabali; Agriculture, Fathalla Barakat Pasha; Public Works, Osman Moharam Pasha.

**PARLIAMENT.** For the first time in more than a year and a half a regularly elected parliament of Egypt assembled on June 10. All the attending pomp and ceremony were carried out in the presence of King Fuad and the British representative, Lord Lloyd. Premier Adly Pasha, in his opening address stated that it would be his policy to strengthen parliamentary government and a respect for the constitution. With regard to relations with Great Britain he said "The Government particularly concerns to establish between the British and Egyptian nations and their governments mutual confidence and cordial relations, and to prepare an atmosphere of good understanding which will permit Egypt to enjoy complete independence. The Government considers that the measures taken in the Sudan cannot impair Egypt's legitimate claims, which remain what they were, and will

do all that is possible to reach in this connection a solution giving Egypt satisfaction." Zaghlul Pasha was elected president of the legislative body and declared that while he and his party would support the Adly government as a national union of parties, he would reserve the right to criticize it if he considered it fell short of its duties.

For the time being the question of the acts of the Ziwar ministry were not brought up for discussion and the country enjoyed a period of comparative political quiet which had been unknown for some time. In early August a complete survey was made of the decree laws issued by the Ziwar government and some of them were validated and the rest declared void because of the unconstitutional aspects of his ministry. The parliament spent weeks in discussing the financial situation and decided to discontinue several legations and consular offices abroad in the interest of economy. The whole question of state salaries was gone into and several changes, mostly of a downward nature, were made. The King's civil list was approved after a bitter debate during which a resolution was passed stating that "His Majesty should cause reductions to be made, so that the administration of the royal revenues may be an example of economy and good management to the country as a whole." As a result of the discussions of the budget a reduction of about \$5,000,000 was effected, although even allowing for that a deficit of more than twice that sum was expected.

The fall term of parliament opened its session on November 18. Premier Adly in his speech stressed the necessity of financially aiding the cotton grower, as well as restricting the area planted to secure price control and the formation of cooperative associations to help the agricultural producers. Plans were also suggested for bettering the control of the waters of the Nile, upon which Egypt must depend almost entirely for the fertility of her soil. He stated that the foreign relations of the country were in a most satisfactory condition and that Great Britain and Egypt were understanding each other better than ever before. Zaghlul was again elected president of the chamber by a unanimous vote. On December 8, the government passed a law limiting the acreage sown to cotton to about one-third of its 1920 area. The law was to be in effect for three years. See **ARCHAEOLOGY**.

**EINSTEIN THEORY.** See **ASTRONOMY**; **PHYSICS**; **RELATIVITY**.

**ELECTRICAL ENGINEERS, AMERICAN INSTITUTE OF.** A national organization representing the electrical engineering profession, founded in 1884. The objects of the Institute are the advancement of the theory and practice of electrical engineering and of the allied arts and sciences, the maintenance of a high professional standing among its members, and the development of the individual engineer. It is governed by a board of directors, elected by the membership, consisting of a president, the two junior past presidents, 10 vice-presidents, 12 managers, and a treasurer. There are 51 sections of the Institute located in various cities throughout the country and 89 branches in colleges giving courses in electrical engineering. Three annual conventions are held, in addition to regional meetings and local section and branch meetings. Much of the Institute's work is accomplished

through its standing and technical committees, of which there are 33. It maintains, in coöperation with other national engineering societies, the Engineering Societies Library and a national employment service. There are three grades of members, as follows: Associate, member, and fellow; and the total membership on Oct. 1, 1926, was 18,351. The principal publications of the Institute are the monthly *Journal*, the annual *Transactions*, the *Standards of the A. I. E. E.*, and the *Year Book*. The officers for 1926-27 were: President, C. C. Chesney; junior past presidents, Farley Osgood, M. I. Pupin; vice-presidents, A. E. Bettis, W. P. Dobson, P. M. Downing, H. M. Hobart, B. G. Jamieson, G. L. Knight, W. E. Mitchell, A. G. Pierce, H. S. Sands, H. H. Schooffield; managers, J. M. Bryant, H. P. Charlesworth, F. J. Chesterman, H. C. Don Carlos, M. M. Fowler, H. A. Kidder, W. M. McConahey, E. B. Merriam, I. E. Moulthrop, E. C. Stone, W. K. Vanderpoel, J. B. Whitehead; national treasurer, George A. Hamilton; secretary, F. L. Hutchinson. The national headquarters are in the Engineering Societies Building, 33 West 39th Street, New York, of which it is joint owner with three other national societies.

**ELECTRICAL INDUSTRIES.** The year 1926 was notable for great increases of output by electric light and power companies as well as in the number of customers served. At the beginning of 1926, the capacity of generating plants in the United States was estimated to be 26,200,000 kva., and this was greatly increased during the year. The activity in all lines of industry during the year, especially building construction, produced increased demands for electricity and the construction of lines through which to supply it. The constantly widening use of various domestic appliances, particularly electric refrigerators, for the introduction of which an active sales campaign was inaugurated was responsible for much of the new demand. Electric energy displaced steam power at an increasingly rapid rate. An interesting survey by *Electrical World* showed that more than 44 per cent of all the electric motors installed were located in the three States of Pennsylvania, Ohio and New York. In Pennsylvania there were 3,457,471 hp. of motors, Ohio was second on the list with 2,291,179 hp. installed and in New York the total was 2,208,621.

By industries, this investigation also disclosed the proportion of electric motor horsepower in use in the principal industries as given in the following table:

	Per cent
Iron and steel . . . . .	21
Machinery . . . . .	11
Textiles . . . . .	11
Food . . . . .	10
Chemicals . . . . .	8
Transportation . . . . .	7
Paper and printing . . . . .	7
Stone, clay, and glass . . . . .	6
Miscellaneous . . . . .	19

Electric light and power companies, electric street railways, electrical manufacturing and the telephone business enjoyed an enormous gross revenue during the year, amounting to \$5,934,000,000. The invested capital of these companies was reported to be \$19,500,000,000—to which

they added, during the year \$1,570,000,000.—The total investment in the electric light and power industry was estimated by *Electrical World* to be \$8,400,000,000, and at the close of the year these undertakings were serving a total of 19,528,581 customers of which number 1,460,360 were added during the year. At that time, also it was planned to expend \$397,000,000 for generating stations and \$561,000,000 for transmission lines and distribution facilities.

**ELECTRIC LIGHTING.** One of the outstanding features of the year was the increased efforts on the part of municipalities and automobile clubs to improve traffic light signal systems. In many of the larger and in not a few of the smaller cities, the practice of using three colors for traffic signals was adopted. In some localities, it was found more satisfactory to employ only red and green, for indicating "stop" and "go," respectively; while in others, the use of yellow for caution conferred an added degree of safety both for pedestrians and drivers of motor cars. In Chicago, Cincinnati, to a limited extent in New York and in a few other cities, traffic signals were satisfactorily controlled from a single station by automatic timing devices which could be so set as to give any desired time interval for the movement of vehicles on main thoroughfares or for dangerous street intersections.

In some localities, where fatal accidents to pedestrians had been especially frequent, great improvement was brought about by substituting more and brighter lamps for street illumination. Illuminating engineers were in many places engaged in a study of this problem which was to some extent complicated by the presence of shop window illumination, flashing signs, etc. In one city it was found necessary to install on a busy avenue lighting units of 2500 candle power (25,000 lumens by new rating) set on 18-foot poles 100 feet apart. There was considerable improvement in the lighting of highways, the tendency being in the direction of brighter lights, but the use and adjustment of automobile headlights, as regards avoidance of glare, was still far from satisfactory. The Society of Automotive Engineers and the Illuminating Engineering Society appointed a joint committee for the investigation of automobile headlighting with a view to its improvement.

The increasing extension of airplane mail routes, involving night flying, brought many new problems to the attention of engineers and involved the erection of specially designed beacons for the guidance of aviators.

**ELECTRIC SIGNS.** An interesting aspect of outdoor illumination was furnished by the report of an electric sign survey in the City of New York, which disclosed the fact that the illuminated signs along the city's "Great White Way" were estimated at 25,000,000 cp. by Arthur Williams, vice-president for commercial relations of the New York Edison Co. Of the 17,000 electric signs below 135th Street, restaurants showed more than 2800; 1300 were on barber shops; 1100 advertised tobacco, 867 clothing, and 763 called attention to the display of automobiles and their accessories. It was also reported that during 1925 almost 5000 new electric signs had been added to the nightly display.

The lighting of factory interiors was char-

acterized by brighter and better diffused illumination in order to bring about better working conditions with diminished eye strain and as a result secure a greater output.

**ELECTRIC POWER TRANSMISSION.** An analysis made by *Electrical World* showed that in 1925, of the smaller companies (generator rating of less than 500 kva), 2091 were generating all their energy, and in 1924 there were 2321 such companies. At the end of 1926, there were even fewer. The smaller central stations, by means of interconnection with stations of the large systems, were abandoning their generating equipment and purchasing energy from the larger companies, thus becoming distributors only, of energy. The same authority also stated that during the year 1926, 1738 companies had no generating or power-house equipment and no high-tension transmission lines.

There were 114 systems with generator or transformer ratings of more than 50,000 kva. Of these, 91 generated all their own energy, 21 generated and also purchased energy from other systems and only 2 purchased all their energy. The combined rating of these companies was 19,352,002 kva., or 69.3 per cent of the total rating of all systems in the United States.

As in 1925, many instances of interconnections between transmission lines were evidence of the large-scale development work that was being prosecuted. In California, a 105-mile line was built to connect two large power systems whose hydroelectric generating plants were situated 450 miles apart. This tie line was said to have cost more than \$2,000,000. Another California undertaking was a 220-kv. line under construction for the purpose of transmitting energy from the Big Creek plants to the Los Angeles district. It was 223 miles long and was estimated to cost \$11,000,000, including the construction of 75 miles of road for transporting tower and line material through a hitherto inaccessible and untraveled part of the mountains.

Near Allentown, Pa., the Pennsylvania Power & Light Co. completed, during the year, a 220-kv. transmission line 65 miles long; the first line built in the East for so high a voltage. Special features were embodied in the design of the insulators, conductors and steel towers for the purpose of insuring uninterrupted service as the line passed over the mountains in a district where sleet storms were of frequent occurrence. It was expected that satisfactory operation of this undertaking would to a large extent influence the design of other high-tension circuits that were under consideration in the East.

As in 1925, higher voltages on both underground and submarine cables characterized the year's developments. In Chicago, two 66,000-volt cables were put in service, one connecting Crawford Avenue generating station with Northwest station 10 miles distant; the other connecting the former with Fisk Street station. Between St. Louis, Mo., and East St. Louis, three submarine cables, each of 33,000 kw. capacity, were laid under the Mississippi. A novel feature of this work was the manufacture of the cables in 2,500-ft. lengths in order to obviate the necessity of splicing in mid-stream. A 15,000-volt cable was laid across Puget Sound, where the water was 840 ft. deep. This cable was insulated with rubber instead of impregnated paper, and

its installation was considered especially notable on account of the weight to be handled (15¼ lb. per foot of length) and the great depth of water. See POWER; WATER POWER.

**ELECTRIC RAILWAYS.** See RAILWAYS, under ELECTRIFICATION; also RAILWAYS, ELECTRIC.

**ELECTROMAGNETIC THEORY.** See PHYSICS.

**ELECTRONS.** See PHYSICS.

**ELEMENTS.** New. See CHEMISTRY.

**ELIOT, CHARLES WILLIAM.** American educator and president emeritus of Harvard University, died at Northeast Harbor, Me., August 22. He was born in Boston, Mass., Mar. 20, 1834, and, preparing for college at the Boston Latin School, graduated from Harvard in 1853. In 1854 he became tutor in mathematics, and a student in chemistry with Professor Josiah P. Cooke. In 1858 he was made assistant professor of mathematics and chemistry in the Lawrence Scientific School, serving in that capacity until 1863, when he visited Europe studying chemistry and investigating modern educational methods. On his return in 1865 he became professor of analytical chemistry in the Massachusetts Institute of Technology, then recently founded in Boston. He visited France in 1867-68 and in 1869 was elected 22d president of Harvard College. Immediately he undertook a series of reforms and radically transformed the institution, the innovations adopted under his administration having a marked effect upon educational methods and systems in other American colleges. He remodeled the curriculum to secure a more liberal basis of studies, patterning the general scheme of instruction somewhat on the model of European universities. He introduced what was known as the elective system with the object of granting greater breadth and privilege than previously had been associated with the American college. Dr. Eliot effected the substitution of lecture courses for recitations and all-written tests for oral examinations.

In his first report he singled out the Harvard Medical School for special comment and remarked, "the whole system of medical education in this country needs thorough reformation." One of the results of his interest in this field was the development of the idea of full laboratory work, and a broad course of study in which were included all recognized subjects of medical instruction. In the Harvard Law School under President Eliot's administration, the case system was introduced into the teaching of law, and the level of the school rose to the place where the scientific teaching of law was carried on. There were few departments of the university in which the president's influence was not felt and, while his methods were the subject of controversies both at Harvard and in university circles generally, he was early recognized as an authority on higher education, and his annual reports were studied as important contributions to the solution of problems that concerned the development of higher education in the United States. Harvard University under Eliot's administration continued to increase in influence and reputation. From a college of 75 teachers and hardly more than 1000 students it grew into a university which, when he relinquished its active control in 1909, had more than 500 officers of instruction and more than 5000 students, with an income five times

as large as in 1869. The Graduate School, established as one of his first official acts, soon took rank with the leading universities of the world, while it was made possible to cover the undergraduate course in three years by a student passing into professional or post graduate work.

While at Harvard Dr. Eliot became widely known as a speaker and writer on various topics outside of educational matters, and he was fearless in his addresses, speaking his mind freely, and often bringing about widespread criticism. He made many public addresses on labor topics in which he criticised the labor union, believing that it shared with capitalism responsibility for the failure to develop a pure and efficient democracy. He became a member of the National Civic Federation and participated in many conferences with labor leaders and capitalists, enjoying the respect of both groups, though by many regarded as a bitter enemy of organized labor. Dr. Eliot also spoke and wrote on religious topics and stimulated thought and discussion by the frankness of his pronouncements on the religion of the future. Dr. Eliot resigned as president of Harvard in 1909 to become president emeritus, an honor he enjoyed at the time of his death. In March, 1909, President Taft offered him the post of ambassador to the Court of St. James's, a tender which received the unanimous approval of the American press and the public generally. Dr. Eliot declined this honor as he wished to be entirely free from official responsibility for the remainder of his life.

During the World War, however, he was active with voice and pen in behalf of the Allies, maintaining that "the hope of the world lies in complete coöperation between the British Empire and the United States of America, the two great sections of the English-speaking peoples." After the War he was a vigorous supporter of the League of Nations and defended the plan against the criticisms of its opponents. The latter years of Dr. Eliot's life found him in full possession of his intellectual powers, and from time to time he published essays in which he criticised various shortcomings of American civilization as he saw it. He called attention to such violations of the principle of majority rule as filibustering in the United States Senate, the resistance to the execution of the Volstead law by a minority of the total population, the prevalence of lynching, and the activities of the Ku Klux Klan. He also condemned the tendency to standardization in education and industry, and was outspoken for civic and intellectual betterment.

President Eliot's reputation was by no means restricted to his own university and the United States. He received from France the honor of Commandeur Légion d'Honneur; from Italy that of Grand Officer of the Crown of Italy in 1908; from Japan the Imperial Order of the Rising Sun of first class in 1909; from Germany the Royal Prussian Order of the Crown, first class, in 1909; from Belgium the Order of the Crown of Belgium, 1919; and from Serbia the Grand Cordon of the Order of St. Sava, 1923. He was a corresponding member of the Academy of Moral and Political Sciences of the Institut de France, and of the British Academy. In the United States he was awarded the first gold medal of the American Academy of Arts

and Letters as a recognition of "special distinction" in 1915, and was a fellow of the American Academy of Arts and Sciences, a member of the Massachusetts Historical Society, of the American Philosophical Society, honorary president of the National Conservation Association, president of the Massachusetts Society of Social Hygiene, 1915-20, a member of the General Education Board, 1908-17, of the Rockefeller Foundation, 1914-17, and of the International Health Board, 1913-17. From Harvard he received the honorary degrees of LL.D. and M.D. in 1909. He also received the degree of LL.D. from Williams and Princeton in 1869, Yale in 1870, Johns Hopkins in 1902, Tulane, University of Missouri and Dartmouth in 1909, Brown in 1914, Boston University in 1923, University of the State of New York in 1924, and Ph.D. from the University of Breslau in 1911. In 1923 he was presented with a medal for "distinguished service" by the National Council of Civic Reform. His writings include: *Manual of Qualitative Chemical Analysis* (with Prof. Francis H. Storer); *Manual of Inorganic Chemistry* (with same); *Five American Contributions to Civilization, and Other Essays*; *Educational Reform*; *Charles Eliot—Landscape Architect* (1902); *Annual Reports of the President of Harvard University* (1869-1909); *More Money for the Public Schools* (1903); *John Gilley* (1904); *The Happy Life* (new edition) (1905); *Four American Leaders* (1906); *The Durable Satisfaction of Life* (1910); *The Road Toward Peace* (1915); and *Late Harvest* (1924).

**EMERY, ALBERT HAMILTON.** American inventor and mechanical engineer, died at Stamford, Conn., on December 2. He was born at Mexico, N. Y., on June 21, 1834, and was educated at the Mexico Academy and at Rensselaer Polytechnic Institute, Troy, N. Y. His first notable invention was a testing machine which was in use for many years at the Watertown, Mass., arsenal. From this point he went on with his experiments in precise measurements of large quantities and among other machines of this nature of which he was the inventor are two installed at the Bureau of Standards in Washington. One of them has 230,000 pounds capacity for tension and compression, and the other has 150,000 pounds capacity for tension and 2,300,000 pounds for compression on specimens of all lengths up to 33 feet. He was also the inventor of the method of constructing guns by hydraulic radial expansion. He was active in experimental work and business until 1919, when he had reached the age of 85 years. One of his latest inventions was the plate fulcrum railway track scale which was employed on the Pennsylvania, Illinois Central, and several other railroad systems, as well as for master scales.

**EMMOTT, LORD.** British Liberal politician and manufacturer, died in London, England, December 13. He was born in 1858. After graduating from London University, he entered business. Apart from his interest in business, he displayed great aptitude for political life. From 1899 to 1911 he was a Liberal member of Parliament from Oldham, from 1906 to 1911 being Chairman of the Ways and Means Committee in the House of Commons. He was the head of one of the biggest cotton-spinning companies in England, and had served as First Commissioner of Works in the British Government. From 1911 to 1914 he was Under Secretary for the Colonies.



**EMPLOYER'S LIABILITY.** See WORKMEN'S COMPENSATION.

**ENDICOTT, MORDECAI THOMAS.** An American naval officer and civil engineer, died at Washington, D. C., March 6. He was born at May's Landing, N. J., Nov. 26, 1844, and graduated from the Rensselaer Polytechnic Institute in 1868 with the degree of C. E. After spending the intervening time in practice as a civil engineer and in mining, he was appointed civil engineer of the United States Navy, July 14, 1874, and was on duty at various navy yards and in the Navy Department at Washington as a consulting engineer. In 1895 he was appointed a member of the Nicaragua Canal Commission, and in 1897 a member of the United States Naval Armor Factory Board. In 1905 he was appointed a member of the Isthmian Canal Commission. In 1898 he was appointed chief of the Bureau of Yards and Docks of the Navy Department with the rank of commodore, and later advanced to the rank of rear-admiral. In 1902 he was reappointed and retired from active service Nov. 26, 1906, but continued upon active duties until June 30, 1909. During the World War he was recalled to active duty in the Navy Department. He was president of the American Society of Civil Engineers in 1911.

**ENDOWMENTS, COLLEGE.** See UNIVERSITIES AND COLLEGES.

**ENGINEERING.** See AQUEDUCTS; BOILERS; BRIDGES; CANALS; DAMS; DYNAMO-ELECTRIC MACHINERY; FIRE PROTECTION; GARBAGE AND REFUSE DISPOSAL; PORTS AND HARBORS; RADIO TELEGRAPHY AND TELEPHONY; TUNNELS; ETC.

**ENGINES, GAS OR OIL.** See INTERNAL COMBUSTION ENGINES.

**ENGINES, STEAM.** See STEAM ENGINES; STEAM TURBINES.

**ENGLAND.** The term in its strictest sense applies to the largest and most densely populated part of the island of Great Britain. As employed in reference to the government it often indicates the United Kingdom and Ireland. See GREAT BRITAIN.

**ENGLAND, CHURCH OF.** The established church of England. Its faith is represented in the United States by the Protestant Episcopal Church (q.v.). The King is the supreme governor of the Church, possessing the right to nominate to vacant archbishoprics and bishoprics.

The King and the First Lord of the Treasury also appoint to certain deaneries, prebendaries, and canonries, and the Lord Chancellor to certain canonries. For administrative purposes the country is divided into two provinces: the Convocation of Canterbury and the Convocation of York, each under the control of an archbishop. The Church Assembly, established in 1920 "to deliberate on all matters concerning the Church of England and to make provision in respect thereof," consists of three Houses, composed of Bishops, Clergy, and Laity respectively, the Laity being elected every five years by the lay members of the Diocesan Conferences, which consist of representatives elected by members of the Church. Every measure passed by the Church Assembly must be submitted to an Ecclesiastical Committee, consisting of 15 members of the House of Lords and 15 members of the House of Commons. This Committee reports on each measure to Parliament, and the measure becomes a law if it is passed by both

Houses of Parliament. Parochial affairs are managed by the lay members of the Diocesan Conferences.

The following acts were passed by the Assembly and received royal assent in 1926: The Rural Deaneries of Pontefract and Hemsworth (Transfer) Measure, and the Brialington Parishes (Transfer) Measure, transferring these parishes from one diocese to another; the Parish of Manchester Division Act, 1850 (Amendment) Measure severing the Canonries in the Cathedral Church of Manchester from benefices attached thereto; First Fruits and Tenths Measure, abolishing First Fruits and Tenths from July 16, 1926; Ecclesiastical Commissioners Measure, including clauses for the augmentation of Archdeacons from £200 to £300 per annum, for the upkeep of ancient episcopal residences, the payment of Bishops' costs in legal proceedings, and for funds to aid in the formation of new Bishoprics; Clergy Pensions Measure, providing a pension of £200 per annum at the age of 70 and correspondingly lower pensions if incapacitated before pension age, returnable premiums with 2½ per cent interest on death before pension age, a full year's pension if death occurs in first year of retirement, on conditions of payment of 3 per cent of annual net income and 40 years' service for full pension at the age of 70; Episcopal Pensions Measure, providing for pensions for Diocesan Bishops in England; Benefices (Ecclesiastical Duties) Measure, amending and consolidating the law relating to the due performance of Ecclesiastical Duties of Benefices and making provision for the stipends of curates appointed under the Measure.

The following appointments took place during the year: Dr. E. A. Burroughs as Bishop of Ripon; Dr. Lionel Ford as Dean of York; Canon J. J. Scott, elected Prolocutor of the Lower House of Convocation of York; the Rev. B. O. F. Heywood as Bishop of Southwell; the Rev. B. S. Batty to the newly constituted Suffragan Bishopric of Fulham; the Rev. R. S. M. O'Ferrall as Bishop of Madagascar; the Rev. H. S. Pellham as Bishop Suffragan of Barrow-in-Furness, replacing Dr. Campbell West-Watson, who was appointed Bishop of Christ Church, New Zealand; the Ven. T. W. Cook as Bishop Suffragan of Lewes; the Rev. Hugh I. Embling as Assistant Bishop in the Diocese of Korea; Canon R. G. Parsons to the newly constituted Suffragan Bishopric of Middleton; the Rev. Leonard Kitching as Bishop on the Upper Nile; the Rev. W. V. Lucas as Bishop in Masai. Dr. C. A. Seagar was elected Bishop of Ontario; the Ven. L. R. Sherman elected Bishop of Calgary; and Archdeacon C. A. Cherrington to the new Bishopric of Waikato, New Zealand. The Rt. Rev. C. C. B. Bardsley was translated from the Diocese of Peterborough to the newly constituted see of Leicester, and the Rt. Rev. P. M. Herbert, Bishop Suffragan of Kingston-on-Thames was translated to the newly constituted Diocese of Blackburn.

In 1925, the receipts amounted to £121,414, of which sum Diocesan contributions amounted to £100,830. Expenditures for the year were as follows: ex-service and civilian training, £25,950; religious education, £16,896; special purposes, including the Japanese Relief Fund, £920; missionary council, £3,148; pensions committee, £960; investment of gifts to capital, £7521;



clergy pensions, £47,000; general administration, £19,019. In 1925 the number of baptisms was 477,954, the Easter communicants in the various Dioceses numbered 2,518,874. The total gross income of 12,908 incumbents was £6,402,150, including £200,766 Easter offering. The stipends of the assistant clergy were £1,060,292. The amount of voluntary parochial contributions was £7,232,433, and the total from all sources £9,808,900.

Officers of the assembly in 1926 were: chairman, the Archbishop of Canterbury; vice-chairman, the Archbishop of York; treasurer, Col. Sir R. Williams, Bart.; secretary, Sir Philip W. Baker-Wilbraham, Bart.; chairman of the House of Bishops, the Archbishop of Canterbury; chairman of the House of Clergy, the Dean of Westminster; chairman of the House of Laity, the Earl of Selborne, K. G. Headquarters are at 8, Dean's Yard, Westminster, S.W. 1, London.

**ENTOMOLOGY, ECONOMIC.** The continued spread and increased density of infestation by the European corn borer, and the spread of the Japanese beetle and of the Mexican bean beetle were the most striking features in the field of economic entomology in the year 1926.

**EUROPEAN CORN BORER.** The European corn borer continued its spread, adding 20,000 square miles in 1926 to the infested area, which at the end of the year extended to Berrien County, Michigan, and Noble County, Indiana. A survey made during the year in the original infested area in New York showed an increase in the density of infestation of 300 per cent over that recorded in the survey made in 1924. The work of introducing its natural parasitic enemies from Europe proceeded most satisfactorily, three additional species having become established during the year, and several other new and promising parasites discovered by investigators sent from this country to Italy and France. In control work, the States of Michigan, Ohio, and Pennsylvania promulgated compulsory clean-up regulations, and favorable results were becoming apparent. Among the most important and promising recent results in investigational work was the development of agricultural machinery to meet in an economical manner the needs of the corn borer clean-up requirement. It appears to have been amply demonstrated, both in Europe and the United States, that the control of this pest depends largely if not principally upon the manner of disposal of the cornstalks and cobs. To combat the insect in its winter quarters, it is necessary to destroy or ensile the entire stalk of the plant. The investigational work aimed at the perfection of a device which will cut the corn at the ground line and which can be attached at a reasonable cost to the existing corn-harvesting machinery had met with success, and the large-scale manufacturers of farm machinery had adopted the device and placed it on the market. In addition, there had been brought to a high state of development machinery which it was believed would successfully pick and husk corn and shred the residue for silage or for immediate return to the soil at slight increase in present harvesting cost. An international conference of American and Canadian agricultural officials, experiment station directors, agronomists, and entomologists of nearly all the corn-belt States, manufacturers of farm machinery, and others was held to consider the

control problem, and the infested area in Ohio, Michigan, and Ontario was visited on October 23 and 24. A Congressional appropriation of several million dollars for an intensive clean-up campaign was recommended by the President at the close of the War.

**JAPANESE BEETLE.** The Japanese beetle continued to spread, having extended its range up the Hudson River as far as Ossining, N. Y., to Stamford, Conn., southward to Long Island, and westward in Pennsylvania to Harrisburg and northward to Easton. By June 30 the quarantine area had been increased from 5122 to 6047 square miles. A material known as coated arsenate of lead, which has been developed for use as a spray, is now commercially manufactured and on the market. The advantage gained in the use of this form lies in its greater adhesive properties, which reduces the number of sprayings that may be necessary to effect control. It is recommended for use on shade trees and ornamental plants, but is unsafe for use as a general fruit spray, since too large a quantity of arsenate would remain on the fruit at the time of harvest. Pyrethrum soap, developed as a contact killer, has given satisfactory results for this purpose, and under experimental conditions kills of 95 and 98 per cent have been made.

**ORIENTAL FRUIT MOTII.** The spread of the oriental peach moth continued, it having been found late in 1925 to infest the Niagara fruit district of Ontario from Hamilton to the Niagara River, and a light infestation occurred in 1926. An infestation by what was apparently this pest was recorded for the first time from Michigan. Studies of its life history have shown that the pest develops five broods of larvæ each year at Riverton, N. J., and that some of the third, many of the fourth, and all of the fifth overwinter in cocoons. Parasites were found to play an important part in its control in that State. A bait consisting of fermenting molasses was found to attract the moths, about 50 per cent of those captured in this way being females which had not deposited their eggs. The Federal Bureau of Entomology confirmed a prophecy made the preceding year, that this fruit moth would not be a serious pest under Georgia conditions. This is due to the fact that the latest variety of peach grown commercially matures about midsummer, and this greatly interferes with the late summer and fall food supply of the larvæ. This is considered very fortunate, as seven generations were reared in that State in 1926.

**MEXICAN BEAN BEETLE.** There was a very material increase in infestation by the Mexican bean beetle in 1926, it having been reported for the first time in Garrett and Washington Counties, Maryland; in Virginia it advanced near to the eastern border and in North Carolina approached the centre of the State. Its invasion of Ohio was completed, and it advanced westward to Clinton County, Indiana, and in Pennsylvania eastward to Dauphin County near Harrisburg.

**PINK BOLLWORM.** The pink bollworm was held to the infested areas in the Upper Rio Grande and Pecos Valleys in western Texas and New Mexico through quarantines and controlling and safeguarding the movement from such areas of products in which the pest might be carried. The important developments in the infested areas for the year ended June 30, 1926, include (1) the rediscovery of the insect in the Mesilla Valley for the first time since 1922, (2) the rediscovery

of the insect in the Pecos Valley of New Mexico for the first time since 1921 and the extension of the infestation in that valley to a point 40 miles north of the 1921 infestation, (3) the discovery of a number of isolated infestations located from 35 to 50 miles from any other known infestation, (4) the increased destructiveness of the insect in the Big Bend and in the El Paso Valley, and (5) the discovery of insect injury at Odessa, Tex., having all the characteristics of pink bollworm injury.

**GIPEY MOTII.** In work with the gipsy moth less infestation was found in the barrier zone than during the preceding year, the pest having been exterminated in some of the colonies and the quarantine lifted from 75 towns in Vermont, 33 in Massachusetts, and 5 in Connecticut. The colonies occurring on Long Island were carefully treated and should be completely stamped out. A hurried survey indicated that there had been a marked increase in abundance throughout the eastern part of the infested territory. Conditions on Cape Cod were more serious than during the preceding year, defoliation taking place over thousands of acres of woodland, extending in many localities as far as the eye could reach. It is estimated that 47,000 acres were completely defoliated and 11,000 acres partially defoliated on Cape Cod.

**BROWN-TAIL MOTH.** The brown-tail moth was somewhat more abundant than throughout the preceding year, particularly in southern New Hampshire, the parasitism averaging slightly less.

**BOLL WEEVIL.** Climatic conditions unfavorable to the boll weevil resulted in a great reduction in infestation by the pest and a correspondingly large cotton crop. Comparatively slight injury was caused to the main crop, but late in the season there was considerable injury to the top crop. Its principal injury was caused in the delta region of Mississippi, Louisiana, and southern Alabama. The growing of cotton in the region of the *Thurberia* boll weevil infestation in Arizona has resulted in its becoming more or less established in cotton in the valley of the Santa Cruz River, from some distance north of Tucson nearly to Nogales.

**SWEET POTATO WEEVIL.** The campaign for control of the sweet potato weevil in Mississippi and Alabama has been very successful, infestations in these States having been reduced from the original 185 farms infested to but three infested farms in 1926.

**ALFALFA WEEVIL.** The alfalfa weevil continued its eastward spread in Wyoming, entering Goshen and Carbon Counties near the Nebraska State line, and it invaded four additional counties in Colorado. The importance of infestation with this pest in eastern Wyoming lies in the fact that this area is practically continuous with the alfalfa growing areas of Nebraska and Kansas.

**THE COTTON HOPPER.** The cotton hopper or so-called cotton flea, which is, perhaps through a virus which it transmits, the cause of a disorder of the cotton plant marked by the shedding of the very small squares and an abnormal type of growth, appeared in Alabama for the first time and caused serious injury to cotton. In many cases the bottom crop was almost entirely destroyed as well as a good portion of the middle crop. This pest has for a number of years been the source of injury to the crop along the Gulf

Coast in Texas, and in 1924 caused injury in South Carolina and Georgia.

**TURNIP OR AUSTRALIAN TOMATO WEEVIL.** This introduced weevil has continued to spread in the Gulf region and is now found in 24 counties in southern Mississippi, 8 parishes in Louisiana, 7 counties in Alabama, and 2 counties in Florida. It has also recently been found in the vicinity of Santa Cruz, Calif., attacking carrots. The pest has been found to be satisfactorily controlled by the use of arsenicals in spray and dust forms.

**CITRUS APHID.** The citrus aphid was reduced to negligible numbers in 1926 due to climatic conditions, comparatively little injury being caused.

**APICULTURE.** The controlled mating of queen bees was reported to have been accomplished, for the first time in history, by Lloyd R. Watson of Alfred, N. Y. This discovery makes possible the improvement of the honey bee by scientific breeding.

**SODIUM FLUOSILICATE.** This insecticide has been tested and found to effectively control a number of important pests. It was found to be very effective against the striped blister beetle on soy beans, and its discovery as a control measure has resulted in the bringing about of a general planting of soy beans as a rotation crop on rice plantations in Louisiana.

**PEACH TREE BORER CONTROL.** Tests made in Indiana during the year have shown that, while some small injury may result from the application of paradichlorobenzene to two-year-old peach trees when applied in late August under extremely high soil temperature and a very dry soil, it apparently has no permanent ill effect on the trees. Peach seedling stock in nurseries was, however, seriously injured by the treatment, and a number of the trees were killed.

**INSECT CONTROL BY VACUUM.** It has been found that a high vacuum varying from 24 to 29 in. can be depended upon to kill carpet beetles and clothes moths. Clothes moths in trunks and other containers were killed at the end of one- and two-day exposures. Carpet beetles were also killed, but only after a longer exposure. This discovery is of particular importance to warehousemen who store household goods.

**INSECT QUARANTINES AND EMBARGOES.** On January 1, 1926, an embargo was placed upon the importation of narcissus bulbs with a view to preventing the further introduction of the bulb flies and eelworms. After a further investigation in Spain, the embargo placed upon Spanish grapes to prevent the introduction of the destructive Mediterranean fruit fly in this way was reaffirmed. The general infestation of chestnuts from abroad with insect pests led to the placing of a quarantine on October 1 upon nuts and acorns from Europe to prevent their introduction. On July 15 a quarantine was placed upon the State of Arizona for the purpose of preventing the spread of the *Thurberia* cotton boll weevil from the infested area. In order to control the spread of certain injurious insects occurring in the soil about the roots of plants from Porto Rico and Hawaii, a quarantine was placed upon these territories which became effective on March 1. An interstate quarantine was placed upon American grown narcissus bulbs on July 15 in order to protect the sections not infested by the bulb flies. Domestic quarantines extended during the year include those for the

European corn borer on August 4, the satin moth on November 15, and the Japanese beetle on November 17.

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See also, **AGRICULTURE**, U. S. DEPARTMENT OF.

**EPILEPSY.** Dr. L. Pierce Clark sums up the subject of diet in epilepsy in the *Boston Medical and Surgical Journal* for August 12. Perhaps the oldest attempt in this direction is the bland diet, based on the fact that as a rule the epileptic is inclined to eat to excess and bolt his food, in which case it should be as digestible and as free from irritating quality as possible. Another old diet, and one which may be conjoined with the first mentioned, is the low protein, which may however have been based on the false assumption that the nitrogen of the food is the source of muscular energy; although it had been learned empirically that these patients are often better off on a milk-vegetable diet. Still another plan, which is in a way opposed to the strictly bland diet, is the laxative, in which bran foods enter largely, to keep the bowels active, in the belief that constipation and autointoxication favor the convulsive habit. The salt-poor and salt-free diets, while otherwise in harmony with scientific dieting, were introduced chiefly to economize the use of bromides and thereby prevent their ill effects. The starvation treatment consists of occasional complete fasts of about two weeks each which benefit some patients although aggravating certain cases. Dr. Clark makes use of each and all of the principles in the above diets—low protein, bland and laxative, combined with occasional resort to the starvation and salt-free plans.

**EPI'RUS.** A geographical expression applied to a territory, the northern part of which belongs to Albania and the southern part to Greece. The boundaries are indefinite. The Greek portion corresponds to the departments of Yanina and Prevesa, with populations in 1923 of 173,304 and 52,462 respectively. Northern Epirus had an estimated population of 250,000.

**EPISCOPAL CHURCH.** See **PROTESTANT EPISCOPAL CHURCH**.

**EPWORTH LEAGUE.** See **METHODIST EPISCOPAL CHURCH**.

**ERIE CANAL, ANNIVERSARY OF.** See **CELEBRATIONS**.

**ERITRE'A.** An Italian colony in Africa. It lies on the coast of the Red Sea, extending from Cape Dumeirah and the Strait of Bab-el-Mandeb to Cape Kasar, a distance of 670 miles. Area, 45,754 square miles; population, at the census

of 1921, 402,793 natives and 4251 Europeans. The seat of government is Asmara, situated 7705 feet above sea level, with a population of 14,711, of whom 2500 are Europeans. Massawah is the principal trade centre, with a population of 2275 in 1923. The natives are chiefly Coptic Christians and Mohammedans and they speak a dialect of Abyssinian in the plateau region and Arabic in the lowlands. The local trade is almost entirely confined to camels, oxen, sheep, goats, and their products. Although there is abundant pastoral land the pastoral population is largely nomadic. There is considerable trade in palm nuts, and pearl fishing is pursued at Massawah and in the Dahlak Archipelago. In 1924 the imports through Massawah were 146,129,077 lire and the exports, 85,086,338 lire. In the same year the imports through the land frontier amounted to 54,252,000 lire and the exports to 34,942,000 lire. The tonnage of vessels which entered Massawah in 1924 was 493,695 tons. For the fiscal year 1925-26, the revenue and expenditure of the colony were estimated at: Colonial revenue, 36,439,000 lire; expenditure for colonial administration, 24,674,000 lire and for military purposes, 11,765,000 lire. Governor at the beginning of 1926, Dr. Jacopo Gasparini.

**ERIVAN.** See **ARMENIA**.

**ERYSIPELAS.** This common affection has taken on a new interest since the discovery of the cause of scarlet fever, for it is recognized that there is not one but an entire group of so-called hemolytic streptococci with characters in common yet able to cause very different maladies and to produce different antibodies when the toxins are injected into the blood. Some of the members of this group cause respectively scarlet fever, erysipelas, puerperal and wound sepsis, phlegmonous suppurations, etc. In the *Journal of the American Medical Association* for May 8, Birkhaug reports the results of his investigation of erysipelas along the lines of Dick's work with scarlet fever. A toxin prepared by cultivating the streptococcus of erysipelas causes the same kind of skin reaction as is obtained in the Dick test for susceptibility to scarlet fever. The blood of convalescents from erysipelas will also neutralize this toxin. The author has prepared an antiserum from the horse, and has treated 60 cases of erysipelas with it to determine whether this behaves in a specific manner. He found that both the pulse and temperature fell. Those treated early had the disease cut short while even in the late cases the disease responded favorably. He does not yet know whether the antiserum is a pure antitoxin or a mixed product.

In this connection mention may be made of swine erysipelas, which has no connection with the human disease, but is now known to be communicable to man. Since 1899 many cases have been reported, the majority from handling the cultures used for immunizing hogs, while others were due to handling the infected meat. Swine erysipelas was not recognized in the United States prior to 1920, and whether it has yet been transmitted to man is not surely known.

A very similar affection known as "erysipeloid" has been known for many years which appears at times on the hands of butchers, cooks and others who handle game and fish and in shopkeepers who deal in herring, cheese, etc. In the United States a similar affection attacks fishermen and causes considerable interruption of business. Authorities differ as to whether

these are all the same or different diseases. Some of them make swine erysipelas and erysipeloid with other similar affections of the hands, one and the same disease, others regard them as distinct and still others note the strong resemblance and difficulty in distinguishing between them. Consult article by Klauder in the *Journal of the American Medical Association* for February 20.

**ESPERANTO.** See INTERNATIONAL LANGUAGE.

**ESSAYS.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; ETC.

**ESTHONIA.** A Baltic state comprising the following portions of the former Russian Empire: The province of Esthonia, the islands of Moon Sound, the northern part of Livonia, part of the northwestern part of the district of the Pskov government, and a small portion of the Petrograd government; declared independent Feb. 24, 1918, and recognized by the Supreme Council, Jan. 26, 1921. Capital, Tallinn (Reval).

**AREA AND POPULATION.** The total area is about 18,354 square miles; population, at the census of 1922, 1,110,538, of whom 92 per cent were Esthonians, 1.5 per cent Germans, and 6.5 per cent Russians and other nationalities. Five-sixths of the population are Lutherans, and the rest Greek Orthodox, Roman Catholic, etc. Tallinn or Reval, the capital, had a population of 130,000 in 1924. Dorpat (Tartu), the seat of the university of the same name, had about 50,000 inhabitants. Other large towns are: Narva, a manufacturing town, with about 27,000, and Parnu, on the Gulf of Riga, with about 18,500.

**EDUCATION.** Elementary education is free and compulsory. In 1922-23 there were 1356 elementary schools, of which 1324 were supported by local authorities and the rest private schools. There were 221 higher schools and 85 middle schools for general education. For special or professional education there are agricultural, commercial, navigation, and industrial and art schools. For the higher learning there is the University of Dorpat (founded in 1632) which had 3985 students in 1924, and the Technical Institute at Reval, with 380 students in 1924.

**PRODUCTION.** Agriculture is the chief occupation. The total area of about 10,851,648 acres is divided as follows: Forest land, 2,220,002 acres; fields, 2,532,799 acres; meadows, 2,602,274 acres; pastures, 1,836,302 acres; untillable land, 1,032,206 acres (including a peat bog of 496,112 acres). The principal crops are rye, wheat, barley, potatoes, and oats. No later figures on area and production are available than those given in the preceding YEAR BOOK. The livestock census of 1924 showed 500,508 head of cattle, 607,030 sheep, 284,530 pigs, and 207,023 horses. In 1923 Esthonia had 1266 industrial establishments which employed 45,424 workmen.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, the active development of Esthonian foreign trade in 1925 resulted in a favorable balance of 10,000,000 Esthonian marks. This export surplus is attributable largely to the rapid increase of agricultural production and to the development of local industries. Total imports during the year were valued at 9,654,600,000 marks (about \$25,815,000) and total exports at 9,664,600,000 marks (about \$25,841,000).

VALUE OF ESTHONIAN FOREIGN TRADE IN 1925  
[In million Esthonian marks \*]

Article	Imports		Exports	
	1924	1925	1924	1925
Foodstuffs, cereals, etc.	1,699.2	1,946.8	173.1	179.9
Foodstuffs, meats, dairy, etc.	7.4	25.1	1,190.0	2,491.3
Fish and fish products	224.2	328.4	23.0	42.7
Other foodstuffs, spirits	1,098.4	994.5	83.3	55.3
Livestock and game	0.6	1.4	95.8	103.1
Leather, leather articles	184.7	367.8	128.5	167.9
Seeds and plants	100.2	57.6	94.3	36.5
Wood and wood manufactures	44.8	48.5	1,752.4	1,687.9
Paper and printed matter	144.9	231.1	646.1	1,135.5
Cotton, flax, and other fibers	947.0	1,692.3	1,783.0	1,346.1
Textile fabrics	649.9	886.3	1,457.7	1,821.3
Metals	203.4	359.5	60.0	42.7
Metal goods	381.4	405.7	15.4	11.1
Agricultural machinery	154.3	95.9	4.2	12.6
Other machinery	624.6	587.7	52.9	45.8
Tools, instruments, and firearms	88.4	94.2	1.1	2.8
Stone and earthenware	128.3	120.4	214.6	270.0
Coal, coke, and oil shale	309.4	238.4	0.1	10.1
Oils, fats, tar, and their products	541.4	532.6	3.3	9.1
Fertilizers	131.4	241.9	0.9	1.0
Chemicals and paints	348.2	299.8	82.9	136.4
Objects of art and musical instruments	72.1	98.7	3.2	5.6
Total	8,204.2	9,654.6	7,865.8	9,664.6

\* The Esthonian mark averaged 392 to the dollar in 1924 and 374 in 1925.

**FINANCE.** The Esthonian budget for 1926 balanced at 7,725,000,000 marks, or about 300,000,000 marks higher than the budget proposal for 1925. During the year the government was planning a readjustment of the Esthonian monetary system. In 1924 the Scandinavian gold crown was adopted as the legal standard but was not placed in circulation. With the Esthonian mark now stable at 375 marks to the dollar, the gold crown would be equal to 100 paper marks.

**COMMUNICATIONS.** During 1924, 971 vessels of 537,470 tons entered and 997 vessels of 546,959 tons cleared the port of Reval. The total railway mileage in 1924 was 1702 kilometers or 1057 miles.

**GOVERNMENT.** According to the constitution of the Esthonian republic, passed by the Constituent Assembly on June 15, 1920, and put into force December 20 of the same year, executive authority is in the hands of a state head or "State Elder" and a ministry, both chosen by and responsible to the State Assembly; legislative power, in the hands of the State Assembly of 100 members, elected for three years on the basis of proportional representation and by direct, universal, and secret suffrage. The Assembly forms the government and accepts its resignation, promulgates the laws, passes the budget, decides the financial policy generally, ratifies treaties, etc. The principle of the referendum is recognized for the proposal or amendment of laws, but not in relation to measures affecting the budget, or war, peace, and foreign treaties. State Elder at the beginning of 1926, Jaan Teemant (Peasants' Union).

**HISTORY.** Early in March the Esthonian government passed a law providing for payment for the land expropriated from the large landowners in October, 1919. The terms called for payment at the market rate of land in 1919, and specifically stated that any landowner hostile to the government at the time independence

was gained or shortly thereafter would receive no compensation.

As a result of the elections held for the Third Esthonian State Assembly in May, the following cabinet was approved by the new assembly on July 23: State Head, Jaan Teemant; Foreign Affairs, Dr. F. Akel; Interior, H. Laretei; Agriculture, O. Koster; Education, J. Lattik; Communications, A. Kerem; Trade and Industry, K. Kornel; Social Welfare, O. Tief; Finance, L. Sepp; Justice, J. Sepp; War, J. Soots.

**ESTILL, THOMAS.** Commissioner of the Salvation Army in the Eastern Territory of the United States, died at Mt. Vernon, N. Y., October 19. He was born at Whitby, England on Mar. 13, 1859, and originally intended to follow a trade but was converted by the Salvation Army, then known as the Christian Mission, while on a visit to Nottingham in 1877. After five months' consideration he decided to join the Army and devote the rest of his life to its interests. He went to London for a conference with General Booth, was made an officer and sent back to take charge in Nottingham. Almost from the beginning the Commissioner was intrusted with positions of responsibility, and he was regarded as one of the most thorough organizers in the whole movement. Wherever he went he stimulated the movement and left it on a firm basis when he left. He was one of the leading authorities in the Salvation Army on the Bible and was specially proficient in his knowledge of the Old Testament. He served the Army continuously for forty-eight years and held positions of responsibility on all the continents except South America. His last eighteen years were spent in the United States, the first twelve as commander of the Central Territory, with headquarters in Chicago, and the last six as commander of the Eastern Territory with headquarters in New York.

**ETHNOGRAPHY.** See ANTHROPOLOGY.

**ETHNOLOGY.** See ANTHROPOLOGY.

**EUCCHARISTIC CONFERENCE.** See ROMAN CATHOLIC CHURCH.

**EUCKEN, RUDOLF CHRISTOPH.** German philosopher, died at Jena, Germany, September 15. He was born at Aurich, East Friesland, Jan. 5, 1846, and was educated at the gymnasium of that town, and at the University of Göttingen where he studied philology, history, and philosophy, as well as at Berlin. After teaching in various schools he was appointed professor of philosophy at Basle in 1871, holding this chair until 1874 when he was called to Jena, a position he held until his retirement in April, 1920, after 46 years of service. Eucken was known as one of the German philosophers who revolted against the prevailing tendency to treat man and life from the standpoint of the physical and biological sciences, rather than by his spiritual interests. His writings made for him a wide circle of readers. In 1908 he received the Nobel prize for literature, and visited America in 1912 as exchange professor at Harvard University, receiving many honors from other American institutions. In 1914, he was a visiting professor at the Universities of Tokio and Kioto in Japan. During and after the World War he was a vigorous champion of the cause of the Fatherland and was one of a group of German intellectuals who prepared a manifesto disclaiming the responsibility of Germany for the beginning of the struggle.

Eucken was a prolific author, his works in-

cluding some of a popular nature, as well as those of primary interest to philosophers. These include: *Geschichte und Kritik der Grundbegriffe der Gegenwart* (1878; 2d ed., 1893; Eng. trans., *The Fundamental Concepts of Modern Philosophic Thought*, 1880); *Beiträge zur Geschichte der neuern Philosophie, vornehmlich der deutschen* (1886); *Die Philosophie des Thomas von Aquino und die Kultur der Neuzeit* (1886); *Die Einheit des Geisteslebens* (1888; Eng. trans., *The Life of the Spirit*, 1909); *Die Lebensanschauungen der grossen Denker* (1890; 3d ed., 1899; Eng. trans., *The Problem of Human Life as Viewed by the Great Thinkers*, 1910); *Der Kampf an einen geistigen Lebensinhalt* (1896); *Geistige Strömungen der Gegenwart* (3d ed., 1904; Eng. trans., *Main Currents of Modern Thought*, 1912); *Grundlinien einer neuen Lebensanschauung* (1907; Eng. trans., *Life's Basis and Life's Ideal*, 2d ed., 1912); *Religion and Life* (1911); *Can We Still be Christians?* (1914); *Geistige Förderungen der Gegenwart* (1918); *Der Sozialismus und seine Lebensgestaltung* (1920); and his autobiography, *Lebenserinnerungen, ein Stück deutschen Lebens* (1921). Among his articles which have been translated into English are the following: "Liberty in Teaching in the German Universities" (1897); "Are the Germans Still a Nation of Thinkers?" (1898); "Progress of Philosophy in the Nineteenth Century" (1899); "The Finnish Question" (1899); "The Philosophy of Friedrich Froebel" (1900); "The Present Status of Religion in Germany" (1901). The following biographies of Eucken have been published: Pöhlmann, *R. Euckens Theologie mit ihren philosophischen Grundlagen* (Berlin, 1902); Siebert, *R. Euckens Welt und Lebensanschauung* (Langensalza, 1904); Gibson, *Rudolf Eucken's Philosophy of Life* (New York, 1907).

**EUCLID ZONING DECISION.** See CITY PLANNING.

**EULENBURG, ERNST.** A famous German music-publisher, died in Leipzig, in September. He was born in Berlin, Nov. 30, 1847, and received his musical education at the Leipzig Conservatory. In 1874 he established in Leipzig the firm bearing his name, which soon was famous for its fine pocket editions of the masterpieces of chamber-music. When, in 1892, Eulenburg bought the rights of Payne's miniature edition of orchestral scores, the business of the firm increased enormously through the gradual addition to the collection of practically all the masterpieces of orchestral literature. After the expiration of the copyright, in 1913, Wagner's complete dramatic works were added.

**EUROPEAN CORN BORER.** See CORN; ENTOMOLOGY, ECONOMIC.

**EVANGELICAL CHURCH.** A denomination formed by the union of the Evangelical Association and the United Evangelical Church. The former was the outgrowth of a religious movement started in Pennsylvania in 1800 by the followers of Jacob Albright. In 1892 a number of ministers and members organized themselves into the separate denomination known as the United Evangelical Church. At length the growing conviction that the two churches should be reunited led to the appointment of commissions, which drew up the so-called Enabling Act. The new organization was officially established at Detroit, in 1922. At the time of merging, the Evangelical Association had 167,416 church mem-

bers and the United Evangelical Church 92,001. At the end of 1920 there was a total membership of 251,704. There were 1930 itinerant preachers and 417 local preachers. Of 24,289 received into church membership during the year, 15,533 came on profession of faith. Sunday schools numbered 2020, of which 681 were in the foreign mission fields in China, Japan, Germany, and Switzerland. Of the total enrollment of 388,826, China had 4070; Japan 3785; Germany 29,848; and Switzerland 15,350. The total amount raised by the Sunday schools was \$592,119.82. The Christian Endeavor Society membership was 75,737. There were 1402 Woman's Missionary Societies in the denomination, with a membership of 42,885. The total value of all property was \$36,622,520.33. The money raised during the year totaled \$6,852,686.46, an average of \$27.97 per member. The chief schools of the denomination are: North Central College and Evangelical School of Theology, Naperville, Ill.; Western Union College, Le Mars, Iowa; Albright College, Myers-town, Pennsylvania; Schuykill College and School of Theology, Reading, Pa. Two orphanages and six Old People's Homes were maintained in the United States, as well as several hospitals. The church had twenty-five conferences in the United States one in Canada, one in Japan, two in Germany, one in Switzerland. There were two publishing houses. The Church issues two official papers, the *Evangelical-Messenger*, in English, and *Christliche Botschafter*, in German. It was planned to hold the next general conference in Milwaukee, in October, 1930.

**EVANGELICAL SYNOD OF NORTH AMERICA.** A religious denomination formed by a union of Lutheran and Reformed churches, effected in 1840, at Gravois Settlement, Mo., and by subsequent similar unions, forming organizations which consolidated in 1877. The essential doctrine of the group rests on the Biblical interpretations furnished by the Augsburg confession, Luther's catechism, and the Heidelberg catechism, allowing liberty where these do not agree. The church is organized into 19 districts, with extensive power of self-government. Presidents of districts, clerical delegates, and lay delegates meet in general conference every fourth year. A quadrennial synod was held in 1925. In 1925 the organization included 1307 pastors, 1115 church members, and 1200 Sunday schools with 181,044 members. Money raised by the denomination for all purposes in 1925 amounted to \$5,967,332. Church property was valued at \$38,729,421. Missionary work was carried on in the United States, India, Honduras, and South America. In the United States there were over 100 missionaries, men and women, active in some 135 communities. The Board of Foreign Missions reported an income of over \$112,000 for 1925, and had 14 men, one of them a medical worker, and 17 women, as missionaries in India, in addition to 333 native workers. In Honduras there were 11 missionaries at two stations. The denomination maintains three institutions of learning; Eden Seminary, St. Louis, Mo.; Elmhurst College, Elmhurst, Ill.; and Robinson Academy, Waco, Texas. The chief periodicals published are *Der Friedensbote* and *The Evangelical Herald*.

**EVOLUTION.** See PHILOSOPHY; ZOÖLOGY.

**EXCAVATIONS.** See ARCHEOLOGY.

**EXCHANGE, FOREIGN.** See FINANCIAL REVIEW.

**EXHIBITIONS, ART.** See ART EXHIBITIONS.

**EXNER, FRANZ.** Austrian physicist, died at Vienna, Austria, November 15. He was born in Vienna in 1858, and was the son of the Franz Exner who played so large a part in the reformation of the University of Vienna. Other sons of this family achieved fame in different departments of science, and law. Franz Exner was the youngest son and turned his attention at an early age to the problems of physics. Among his inventions was a portable electrometer. He made his greatest successes in the investigation of atmospheric electricity, spectrum analysis and radium studies. He was the founder of the Vienna Radium Institute.

**EXPERIMENT STATIONS.** See AGRICULTURAL EXPERIMENT STATIONS.

**EXPLORATIONS.** The expeditions of the year were divided between geographical and research purposes. Apart from the narrow lanes across the Arctic Ocean, recorded under POLAR RESEARCH (q.v.), there have been no incursions into unknown regions. Rapidity of cursory exploration has been accomplished by the use of the airplane for surveys covering general physical conditions. Of these the most notable were the surveys of the archipelago of Nova Zembla, of the Tongass Forest of southeast Alaska, of the tidal forests of the Irrawaddy delta, and the traverses over the North-polar Ocean.

Scientific explorations were numerous, sharply divided into two classes. First, were special researches for the extension of current scientific knowledge; second, archeological work for the elucidation of historical or religious problems. Of these researches about 40 per cent were in archeology or ethnology; 25 per cent in geology, mineralogy or paleontology. The most valuable results were those connected with the development of the Maya civilization in Central America, and the excavations of buried cities in Asia Minor. Unfortunately, disturbed conditions in China prevented a renewal of the important paleontological researches in Mongolia. The record of American researches precedes the list of work done by foreign nations.

**AMERICAN RESEARCH EXPEDITIONS.** In number, extent and importance, these explorations exceed those of all other nations. Conspicuous by the amount and character of their investigations were the American Museum of Natural History of New York, the Carnegie Institution of Washington, the Field Museum of Chicago, and the Smithsonian Institution. Explorations in the United States are omitted, and in all cases the lack of space compels the absence of details. There are given only the names of the responsible institutions, the leader of the expedition, the kind of research and the regions visited.

**CALIFORNIA.** *University of California.* Loeb, ethnology, Dutch East Indies. *Pacific School of Religion,* Berkeley, Badé, Mizah Tombs, Palestine.

**CONNECTICUT.** *Yale University.* Dougherty, archeology, Southern Babylonia; Gregory, archeology, Hawaii; Record, forestry, Central America; Wissler, archeology, Australia.

**DISTRICT OF COLUMBIA.** *Archeological Society.* Gamio, archeology, Guatemala.

**CARNEGIE INSTITUTION.** Morley, in general charge of researches on Maya civilization in Mexico and Guatemala; Morris, archeology, Chichen Itza, Mexico; Ricketson, archeology, Uxactun, Guatemala.

*National Geographic Society.* Abbott, solar

radiation, Mt. Brukkalos, Southwest Africa, in coöperation with the Smithsonian Institution.

*Smithsonian Institution.* Walcott, geology, Canadian Rockies; Abbott, solar physics, Mt. Brukkalos, Africa; Aldrich, diptera, Guatemala; Graham, biology, Szechwan, China; Hrdlicka, anthropology, Africa, Alaska, Asia, Australia; Kellers, zoölogy, Sumatra; Greene, diptera, Panama; Leonard, botany, Haiti; Mann, mammals, Africa; Schmidt, crustacean fauna, South America; Standley, botany, Costa Rica.

ILLINOIS. *Field Museum, Chicago.* Cherrie, fauna and flora, Brazil, Bolivia; Conover, zoology, Central Africa; Fisher, archeology, Megiddo, Palestine; Langdon (coöperating with *Oxford University*), archeology, Sumerian cities, Mesopotamia; MacMillan-Rawson, ethnology and zoölogy, Greenland and Labrador; Riggs, paleontology, Northern Argentina. Heller, zoology, Uganda; Kroeber, history (coöperating with Peru) Peru; Linton, ethnology, Madagascar; Osgood, fauna, Abyssinia; Roosevelt, zoology, India and the Pamirs; Weberbauer, botany, Peruvian Andes; Zimmer, zoölogy, Tanganyika, Africa.

MASSACHUSETTS. *Harvard University:* Reisner and Wheeler, Giza tombs, Egypt; Spinden, archeology, Central America; Strong, tropical diseases, Central Africa.

MISSOURI. *Xenia Theological Seminary*, St. Louis: Kyle, archeology, Palestine, coöperating with *American School of Oriental Research*.

NEW JERSEY. *Princeton University:* Shear, archeology, Corinth, Greece.

NEW YORK. *New York Botanical Garden:* Gleason, botany, Porto Rico.

*American Museum of Natural History;* Akeley, mammals, Central Africa; Andrews (aided by *Field Museum, Chicago*) archeology, Mongolia; Anthony and Goodwin, (aided by *N. Y. Academy of Sciences*), fauna and flora, Porto Rico; Beck, ornithology, South Sea Islands; Burden, reptiles, Komodo Island; Chapin, Sage and Matthews, ornithology, Africa; Chapman, ornithology, Canal Zone; Griscom, ornithology, Yucatan; Matthew, fossils, India; Miner, fishes, near the Bahamas; Morden-Clark, Asiatic fauna, Central Asia; Murphy, birds and fishes, Mediterranean Sea; Putnam and Raven, oceanic species, West Greenland seas; Rockefeller, ornithology, Hudson Bay; Tate, mammals, Argentine and Bolivia; Taylor and Anthony, birds and mammals, Africa; Van Name, marine life, Pearl Island; Vernay and Faunthorpe, mammals, India.

*New York University:* Riefstahl, archeology, Anatolia.

OHIO. *Cleveland Museum of Natural History:* Simmons, botany and mammals, Islands in South Atlantic Ocean.

PENNSYLVANIA. *University of Pennsylvania:* Rove, archeology, Resian, Palestine; Spieser, archeology, Mesopotamia; Woolley and Le Grain (in coöperation with *Oxford University*), extended and important excavations, Ur, Palestine.

AFRICA. *British School of Archeology:* Caton-Thompson (Miss), archeology, Fayum, Central Egypt; Gardner (Miss), geology, Fayum; Sanford, archeology, between Thebes and Sohag. (Also see American Expeditions, ante.)

FRANCE. Researches in northern Africa, especially those of the *Morocco Geographical Society*, were interrupted by disturbed conditions: Grebaut, philology, Ethiopia; Reygasse-Pongd, ethnology, Hoggar, Sahara; Dember, primitive tribe,

Kalahari Desert; Ruwenzori Kuvi expedition, fauna, Central Africa.

SOCIETY OF NATIONS. Its agents made medical surveys of African colonies.

ASIA. Very extensive and important archeological excavations were made in Asia Minor, and paleontological discoveries in Mongolia. *British School of Archeology*, Mackay, archeology, Bahrain Island, Persia. GERMAN. Sellin, archeology, Shechem, Palestine.

INDIAN GOVERNMENT (aided by *Royal Geographical Society*): Mason, exploration, high Himalayas. (See also American Expeditions, ante.)

RUSSIA. To maintain its sovereignty, the Soviet authorities took action for the occupation of islands off the Arctic coasts. Matussiiev and Kalwitz, starting from Leningrad in August, surveyed parts of the archipelago of Nova Zembla, occupied by Samoyeds. See also WRANGELL ISLAND.

*Russian Geographical Society.* Schokalsky continued his marine researches in the Black Sea; Koslov renewed his Asiatic explorations; his activities in 1926 were exerted in the Gobi Desert, where he discovered fossils of prehistoric vertebrates, and in the Khangai mountains of Mongolia, excavating ancient tombs; Meehaninoff, unearthed Urali monuments, Azerbaijan; Keslov, botany, Kara-Kum Desert.

ITALIAN NATIONAL COMMISSION FOR GEOGRAPHY. Its expedition made geographical researches in Palestine.

SWEDISH. Mjöberg, ethnology, Central Borneo. Nepon and Salac, Czecho-Slovakians, unearthed the ancient Greek city, Kyme, Palestine. In Europe the few results were archæological. Philadelphus made important discoveries in excavations in Athens. The *Swedish Archeological Society*: Pershon and Frodin continued researches in the ruins of Asine, Peloponnesus. RUSSIA. Miss Misonova discovered ruins of prehistoric city, Postnikova, near Samara. ITALY. *Institut de Paléontologie:* Vaufrey, archeology, prehistoric Sicily.

NORTH AMERICA. CANADA. The various departments of the Canadian Government continued their researches of the resources of the north-land—fisheries, forests, game and minerals. The primitive races were protected by inspections of the stations of the police, among which is that on Panguirtung fiord, Baffin Land. For wandering Eskimos a post was established on Bache Peninsula, Ellesmere Land, in 79°04'N.; Canadian development has been extended by the purchase, by the Hudson Bay Company, of the trade privileges of the Moravian Church in Labrador.

MEXICO. DEPARTMENT OF ARCHEOLOGY NATIONAL MUSEUM: Its officials, E. J. Palacios and Miguel de Mendidabal, discovered the ruins of a Maya city, near Santa Isabel, Chiapas, built about 1600 years ago.

BRITISH HONDURAS. The *British Museum*, by its agents made excavations of the ancient Maya city of Lubaantun, in Southern British Honduras.

SOUTH AMERICA. Fawcett, ethnology, Brazilian forests. Izquierdo, excavation of buried city in Ecuador. McGovern, archeology, Paracas, Brazil. (See also AMERICAN EXPEDITIONS, ante.)

OCEANS. Germany, through its navy, was exploring the North and South Atlantic, as to its currents and its water, its salinity and temperature.



The Dutch-American expedition, Van Leeuwen and Stirling, made by airplane ethnological studies in Dutch New Guinea.

**EXPOSITIONS.** The great event of the year was the Sesqui-Centennial Exposition held in Philadelphia, Pa., from June 1 to December 1 in commemoration of the sesqui-centennial anniversary of the signing of the Declaration of Independence in 1776. Its scope was further defined as serving to "demonstrate in graphic manner the progress made in the United States during the past fifty years in education, art, science and industry, in trade and commerce, and in the development of the products of the air, the soil, the mine, the forest and the seas, and it is the aim and desire that the people of all other nations be invited to contribute evidences of their own progress to the end that better international understanding and more intimate commercial relationships be engendered, and so hasten the coming of universal peace."

**HISTORY.** The story of the inception of the desirability of celebrating the sesqui-centennial of the signing of the Declaration of Independence with an exposition by a group of citizens at a meeting held in November, 1920; its general acceptance, and the almost complete abandonment of the proposition; followed by the revival of the plan under the auspices of the organization that ultimately carried it through has been given in *YEAR BOOKS* for 1921 (p. 217), 1922 (p. 227), 1923 (p. 222), 1924 (p. 229), and 1925 (p. 225).

The following were the principal officers during the life of the Exposition: W. Freeland Kendrick, Mayor of Philadelphia, President; Ernest T. Trigg, Vice President and Chairman Executive Committee; E. J. Lafferty, Vice Chairman Executive Committee; D. C. Collier, Director General (resigned in 1925 and succeeded by Capt. Asher C. Baker, who died on June 5, 1926); E. L. Austin, Comptroller; and George W. B. Hicks Executive Secretary. Subsequent to the death of Captain Baker the responsibility of the exposition was transferred to E. L. Austin, business manager and comptroller.

**LOCATION.** The site selected for the exposition was at the south end of Broad Street about 3 miles from City Hall and easily accessible by means of street car lines, busses, and special vehicles. The grounds proper consisted of 275 acres of League Island Park, beautifully landscaped, with lakes and a wading pool, which were used for the foreign and state section and special buildings and whose use was donated by the city of Philadelphia; adjacent land making up with League Island Park a tract of 450 acres on which were the main buildings and plazas of the exposition; a tract of 120 acres, which it is expected will ultimately become the municipal golf course, was enclosed within the grounds and served as a flying field as well as the city flying field of 90 acres which was a little further to the west; a plot of 300 acres was set aside for auto parking; and 90 acres were reserved for military encampment. Including within this total space of 1050 acres for the exposition, were the 80 acres assigned to the Gladway and the 15 acres of lagoons.

**BUILDINGS.** The main buildings of the exposition were of modern factory type steel frame with stucco coating. The "set-back" style of treatment of the larger structures was both novel and unique with this exposition. The palaces were decorated in pastel shades laid in stucco,

thus making their optical effect soft and pleasing. The general result was similar to that of the vari-tinted buildings of the tropics and led to the name of "Rainbow City" being applied to the Sesqui-Centennial in the same way as "White City" was given to the World's Fair held in Chicago in 1893. The supervising architect under whose direction the various buildings were erected was John Molitor. The two great exposition structures in which most of the exhibits were housed were the Palace of Liberal Arts and Manufactures and the Palace of Agriculture and Food Products, each of which had a floor space of 338,992 square feet or 8.35 acres and cost \$1,250,000. In addition to these were the Palace of Machinery, Transportation, Mines and Metallurgy with a floor area of 489,456 square feet or 11.3 acres, that cost over \$750,000; the Palace of Education with an area of 108,992 square feet that cost \$350,000; an Auditorium in which concerts were given by famous orchestras and bands and conventions held, and for which an organ was built that cost over \$150,000; and a great Stadium that cost \$3,000,000, and had a seating capacity for 100,000 persons, and possessed an equipment of every facility for staging outdoor contests and pageants whose proportions demanded more than the average size athletic field. A valuable collection of pictures, more than a thousand in number, was brought together from various parts of the world and was housed in a building devoted to Fine Arts. See *ARCHITECTURE*.

Other buildings included those erected by the States of Connecticut, Delaware, Florida, Illinois, New Jersey, New York (a replica of the Federal Building in which George Washington took the oath of office), Ohio, Pennsylvania (which cost \$450,000), and others of less importance. Among the buildings erected by foreign nations were those of Argentina, Czechoslovakia, India (which simulated the Taj Mahal and contained the exhibits shown at Wembley), Persia, Spain, and Sweden.

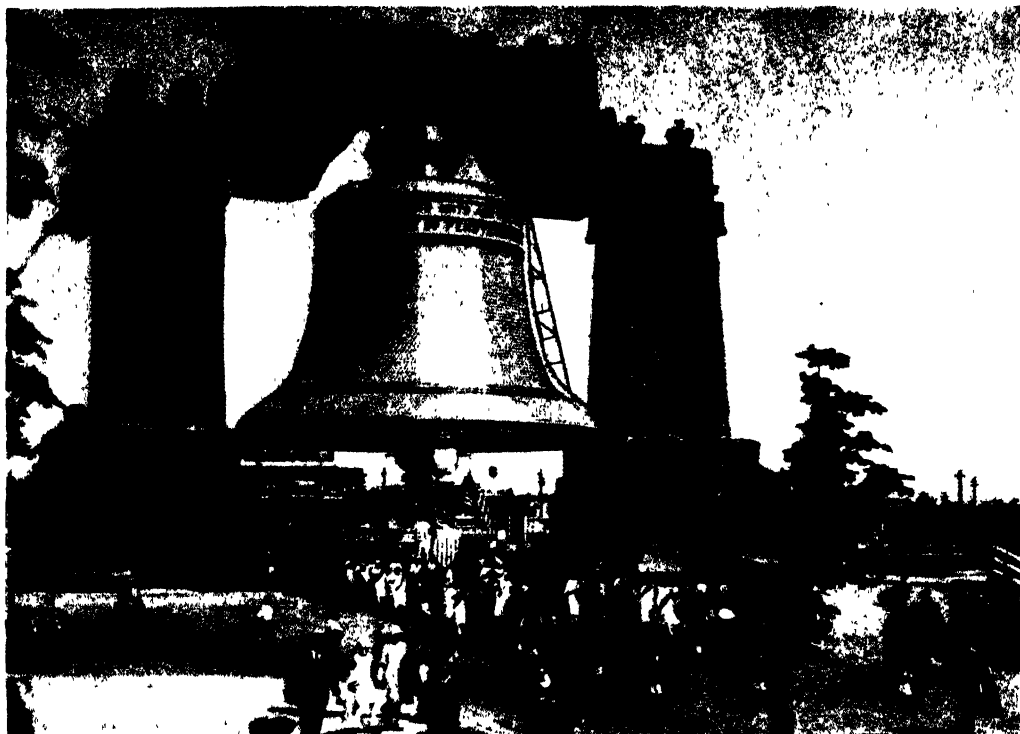
There was also a reproduction of High (now Market Street), in Philadelphia during 1776, showing the life of that time and including private residences, a market, a meeting house, a printery, various shops, a theatre, an inn, a school and other institutions which served to contrast conditions of 150 years ago with those of to-day. The Colonial Dames of America built a replica of Sulgrave Manor, the ancestral home of the Washington family in England, in which were exhibited historical relics pertaining to the life of the Washingtons. See *ARCHITECTURE*.

**SPECIAL FEATURES.** Among the special features to be noted was a gigantic Liberty Bell, the height of a six-story building, which stood at the Plaza entrance to the grounds and contained 26,000 incandescent lights.

At the head of the Court of Honor between the Palace of Liberal Arts and that of Agriculture stood the imposing Tower of Light, over 200 feet high and surmounted by the Light of Independence (never completed). This tower was visible from all parts of Philadelphia and the surrounding territory, and at night when it was illuminated its great silver shaft shed a radiance over the entire exposition grounds.

In the court below, the Forum of the Founders, stood eight-foot portrait statues of the signers of the Declaration. These statues extended around the entire court, and, from the standpoint of





*Wide World Photos*

THE ILLUMINATED LIBERTY BELL AT THE ENTRANCE TO THE GROUNDS



THE AVENUE OF THE COLONIES

THE SESQUI-CENTENNIAL EXPOSITION AT PHILADELPHIA



American culture, were of much value as an educational feature. In the centre of the Forum stood an excellent group of sculpture representing Philadelphia driving forward under the progressive inspiration of 1776. Near this group began the Stairway of Nations as it led downward into the Grand Plaza where stood two heroic figures, the lions of Courage and Peace. Other decorative groups formed an important part of the Stairway, also various groups of statues and other pleasing architectural features contributed to the beauty of the grounds.

**OPENING EXERCISES.** These occurred on May 31, when amid salvos of artillery, the hum of air squadrons, and great choruses, the Sesqui-Centennial Exposition, celebrating the 150th anniversary of the signing of the Declaration of Independence, was formally opened by Mayor Kendrick. The exercises took place in the stadium where addresses were made by Secretary of State Kellogg and Secretary of Commerce Hoover. It was estimated that 100,000 persons visited the grounds on this occasion but owing to the inclement weather not more than half that number were present when the addresses were delivered.

**SPECIAL DAYS.** Throughout the life of the Exposition nearly every day bore some special designation and was celebrated accordingly. More than 200 organizations gathered in Philadelphia for their meetings and visited the fair. Perhaps the most conspicuous event was on July 4, when President Coolidge visited the exposition and addressed a large audience from the Stadium. Of this address it was said that it was "the most notable speech on a patriotic theme he has made during his administration." He discussed the spirit that animated the framers of the Declaration of Independence, contending that the chief credit for that immortal document was due to the preachers of Colonial New England, such as Thomas Hooker and John Wise. Jefferson originated no principles but merely gave expression to ideas penetrating the south from New England and taking form there in George Mason's Declaration of Rights. He appealed to the Nation to rededicate itself to the faith of the fathers as expressed in the Declaration of Independence, and asserted, touching upon the lack of law enforcement, that "it is not the enactment but the observance of laws that creates the character of a nation."

An event of unusual interest was the celebration on October 3 of a solemn pontifical mass of thanksgiving for 150 years of American independence, participated in by more than 250,000 Catholics. Preceding the mass, which was celebrated by Cardinal Dougherty, approximately 50,000 Catholic men representing religious organizations, such as the Knights of Columbus and similar bodies, marched down Broad Street from the centre of the city to the stadium.

**RESULTS.** According to the *Philadelphia Public Ledger* of Dec. 1, "Financially the Sesqui failed. Its attendance was an amazing disappointment, but artistically and educationally it was a striking success. There have been few greater international expositions than this in all the history of expositions. Yet it was smothered under indifference, jealousy, and prejudice and was never able to overcome the handicaps of bad weather and hard-driven haste." According to Mayor Kendrick the attendance was less than one-third what the Exposition Association had expected. Total paid admissions from the open-

ing of the fair on May 31 up to November 25, aggregated 4,536,617 and admissions of all kinds, including passes, totaled 5,852,483. It had been estimated that at least 15,000,000 paid admissions would be had. An international jury of awards, including specialists in various branches of industry and representatives of foreign interests, examined the many exhibits and distributed awards of merit as follows: Grand prizes; gold, silver, and bronze medals; and honorable mentions, none of which was delivered before the close of the year. This work was under the immediate supervision of Mr. S. C. Simms, secretary of the executive jury of awards.

**COMMEMORATIVE FEATURES.** The Post Office Department issued a commemorative two-cent adhesive postage stamp, the central design of which is "the Liberty Bell which swings from the top of four flat ornamental columns that rest on the lower panel." Later on envelope stamp was issued on which again the central design was "an embossed Liberty Bell partly surrounded by a wreath with the years 1776 and 1926 on either side." The Post Office Department also inaugurated on July 6 a daily air mail service between Philadelphia and Washington as an adjunct to the Sesqui-Centennial exposition. In compliance with the Act of Congress authorizing Government participation in the Exposition, the Treasury Department made two commemorative coins, one in silver of 50 cents and one in gold of \$2.50, both of which were sold at a premium. The 50 cent coin had busts of Washington and Coolidge on the obverse and the Liberty Bell on the reverse. The \$2.50 coin showed a draped female figure of Liberty, standing upon a globe with a lighted torch in her left hand while on the reverse was a view of Independence Hall.

The inception of a proposition to determine if visions of a great exposition to be held in Chicago, "far surpassing that of 1893," could be successfully carried out, was originated on March 31 when in response to a call by Mayor Dever a committee of 150 citizens met as a civic centennial committee and decided favorably on the general proposition. Later a ways and means committee of 35 citizens considered the two centennial years of 1933, the 100th anniversary of incorporation of Chicago as a village, and 1937, the anniversary of incorporation as a city, and decided in favor of the former. On June 4, the task of planning the proposed 1933 centennial exposition as a celebration of Chicago's one hundredth birthday was assigned to a committee of seven citizens, as follows: D. F. Kelly, Edward J. Kelly, President of the South Park Board; Alexander H. Revell, E. N. Hurley, Melvin A. Traylor, A. D. Lasker and Dr. Otto L. Schmidt, President of the Chicago Historical Society, who were appointed by the Mayor. A few days later, Edward N. Hurley, former chairman of the United States Shipping Board and war-time head of the Emergency Fleet Corporation, was elected permanent chairman of the Chicago centennial exposition.

It was announced in February that the inauguration of the Ibero-American Exposition at Seville, Spain, had been postponed indefinitely as two more years would be needed to complete the plans. Of 23 nations invited to exhibit, only the United States, Mexico, and Argentina definitely accepted. Four declined. Sixteen accepted, but gave no evidence of intention to attend. The American pavilion was to be erected on the

grounds of the classical Vente de Eritana site, where during many years classical art, dance, and song festivals were held.

A Pan-Pacific Exposition was announced by Japan to be held in Nagoya during 1929. The plans call for an expenditure of 10,600,000 yen of which 3,000,000 yen will be contributed by the city and province of Nagoya. Halls of industry, art, agriculture, stock, forestry, maritime products, minerals, machinery, electrical apparatus, communications, social service, and social culture are to be erected. The buildings, including the projected City Hall, which will be used for the offices of the exposition, will cover nearly 25 acres. Between 6 and 7 acres of space will be allotted to foreign exhibits from the shores of the Pacific, and the exhibits of Japanese products will occupy the remaining space. About 240 acres will be set aside for the exposition grounds which will be located in four different districts. Several of the buildings are to be permanent and the others will be constructed in such a manner as to be easily converted into warehouses or factories.

Among the usual trade fairs may be mentioned the British Industries Fair, which was held in London and Birmingham during February 15-26. The participation of Canada and the East African colonies was reported. The usual spring fair was held in Lyons, France, during March 1-14. The number of exhibits was about 3000 as compared with 2800 in 1925. The orders placed with exhibitors were greater by 50 per cent than last year. The spring fair held in Leipzig, Germany, during February 28-March 6, opened with 11,000 exhibits. More than 100,000 buyers from all over the world, 400 of them Americans, visited the fair. A mammoth "Hindenburg Boot"—17 feet high, with a sole 9 feet long, and sewn with clothesline—was one of the unusual exhibits. The boot weighed 300 pounds, and represented the labor of six men for 750 hours. The fall fair in Leipzig was disappointing. It was reported that there were 8500 exhibitors and approximately 50,000 visitors. There were very few foreign buyers, sales being confined chiefly to German retailers who were replenishing stocks and placing Christmas orders. Most of the exhibitors readily extended credits to buyers, with a minimum of 60 to 90 days and special inducements offered for earlier payments.

**EXTENSION SERVICE.** U. S. DEPARTMENT OF AGRICULTURE. See AGRICULTURAL EXTENSION WORK.

**EXTRADITION.** See INTERNATIONAL LAW.

**FAILURES.** See FINANCIAL REVIEW.

**FAIRS.** See EXPOSITIONS.

**FALKLAND ISLANDS.** A colony of the British crown, situated in the south Atlantic, 300 miles east of Magellan Strait, consisting of East Falkland, 2580 square miles, and West Falkland, 2038 square miles; including in each case various adjacent small islands, about 100 in number. In addition to these are South Georgia with an estimated area of 1000 square miles, and other dependencies, including the South Shetlands, the South Orkneys, the Sandwich group, and Graham's Land, together with all unknown seas and lands of the Antarctic Ocean extending as far as the South Pole. The estimated population in 1924 was 2197. In 1924 the birth rate was 24.12 per thousand and the death rate, 11.18. The chief town is Stanley, with

890 inhabitants in 1921. Education is compulsory. Sheep raising is the chief industry, although whaling is carried on with some success. In 1924 the imports were valued at £475,341 and the exports at £2,585,848. The chief imports were groceries, coal and coke, hardware and machinery; the chief exports, wool and whale produce. The revenue in 1924 was £160,594 and the expenditure, £61,478. Governor in 1926, Sir J. Middleton.

**FAR EASTERN REPUBLIC.** An independent state formed after the war out of the former Russian provinces of Transbaikal, Amur, the Maritime Provinces, and the northern part of the island of Sakhalin. After Nov. 10, 1922, the Far Eastern Republic became a constituent part of the Union of Soviet Socialist Republics, and is now known officially as the Far Eastern region. Area, 652,740 square miles; population, about 2,000,000. Chita is the seat of the government.

**FARM ACTIVITIES.** See AGRICULTURE; AGRICULTURAL EXTENSION WORK; ETC.

**FARM BUREAUS, FARM DEMONSTRATIONS, ETC.** See AGRICULTURAL EXTENSION WORK.

**FARM RELIEF.** See AGRICULTURAL LEGISLATION.

**FARMERS' INSTITUTES.** See AGRICULTURAL EXTENSION WORK.

**FARMS, FARMERS.** See AGRICULTURE.

**FARROW, EDWARD SAMUEL.** American soldier, engineer, and author, died at New York, N. Y., September 9. He was born at Snow Hill, Md., April 20, 1855, and after graduating from the Baltimore City College with the degree of A. B. in 1872, went to the United States Military Academy from which he was graduated four years later, being commissioned second lieutenant in the Twenty-first U. S. Infantry. June 15, 1876. He was promoted to first lieutenant, Sept. 17, 1883. He was instructor in tactics at the Military Academy from 1880-85, and resigned from the army Feb. 24, 1892. In the course of his military service he participated in movements against the Indians in Oregon, Montana, Dakota, and Washington Territory. Lieutenant Farrow was the founder of the Farrow Public Library, Pinewald, N. J., and of the Pinewald Military Camp of Instruction. He compiled *Farrow's Military Encyclopædia* (three volumes) (1885), and was the author of a number of works on military science, including: *American Small Arms* (1904); *West Point and the Military Academy* (1900); *Camping on the Trail* (1902); *Dictionary of Military Terms* (1917); *Farrow's Manual of Military Training* (1919); *Riots and Riot Duty* (1919); *Gas Warfare* (1919); *American Guns in the War with Germany* (1919).

**FEDERAL AID ROADS.** See ROADS AND PAVEMENTS.

**FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA.** An organization established in 1908 by 28 Protestant denominations, to act for them in matters of common interest. At the end of 1926 it included most of the Protestant denominations of the United States, as follows: Baptist Churches, North; National Baptist Convention; Free Baptist Churches; Christian Church; Churches of God in North America (General Eldership); Congregational Churches; Disciples of Christ; Evangelical Church; Evangelical Synod of North America; Friends; Methodist Episcopal Church; Methodist Episco-

pal Church, South; African Methodist Episcopal Church; African Methodist Episcopal Zion Church; Colored Methodist Episcopal Church in America; Methodist Protestant Church; Moravian Church; Presbyterian Church in the United States of America; Presbyterian Church in the United States (South); Primitive Methodist Church; National Council of the Protestant Episcopal Church; Reformed Church in America; Reformed Church in the United States; Reformed Episcopal Church; Seventh-Day Baptist Churches; United Brethren Church; United Presbyterian Church; United Lutheran Church (Consultative Body). Of these, all were full and official members with the exception of the United Lutheran Church, whose relationship was consultative, and the Protestant Episcopal Church, whose National Council coöperates in certain specified areas of work. The total number of local churches included in the constituency of the Federal Council was 154,816; number of clergymen, 127,781; total communicant membership, 23,540,954.

The Council, made up of members designated by the several denominations to act for them, meets quadrennially, the last meeting having been held at Atlanta, Dec. 3-9, 1924. It has an executive committee of about 100, meeting annually. In 1926 this committee met in Minneapolis, Minn., December 8-10. An administrative committee, including one official representative from each of the denominations, meets monthly in New York. This committee includes representatives of other coöperative agencies carrying on specialized work for the churches, among them being the Home Missions Council; the Council of Women for Home Missions; the Council of Church Boards of Education; the American Bible Society; the Student Volunteer Movement for Foreign Missions; and the International Council of Religious Education. The Council also serves as a connecting link between the church and great social agencies, such as the American Red Cross, the Child Welfare Movement, and the United States Public Health Service.

Special tasks of the Council are carried on by a group of commissions. The Commission on Evangelism develops a united approach to the evangelistic work of the churches. The Commission on the Church and Social Service is the centre through which the churches deal unitedly with social issues. It gives particular attention to the developing of better relations in industry through conferences. The Department of Research and Education issues a weekly information service discussing contemporary social questions from the standpoint of Christianity and makes special studies from time to time, its outstanding study in 1926 being a *Report on the Western Maryland Railway Strike*. The Commission on Church and Race Relations furthers efforts of churches in promoting coöperation and good will between the white and negro races in the United States. The Commission on International Justice and Good Will endeavors to mobilize the Christian forces to abolish war by building up effective international agencies for coöperation. During 1926 attention was given to developing better relations with the Orient. Other Commissions of the Council deal with the following subjects: Christian Education; Relations with Religious Bodies in Europe; Religious Work in the Canal Zone; Army and

Navy Chaplains; Relations with the Eastern Churches.

The programme of the Council is carried on with funds contributed in part by individuals interested in the work and in part by appropriations from the various denominations. The official organ of the Council is the *Federal Council Bulletin*, issued monthly and furnishing general religious news. The officers, 1924-28, were: President, Rev. S. Parkes Cadman of Brooklyn, N. Y.; Chairman of Executive Committee, Bishop John M. Moore of Dallas; Chairman of Washington Committee, Bishop William F. McDowell; Chairman of Western Committee, Dean Shailer Mathews. National offices are at 105 East 22d Street, New York. There is a Washington office in the Woodward Building, and a Western office at 77 West Washington Street, Chicago. General Secretaries at the national offices are Rev. Charles S. Macfarland, Rev. John M. Moore, and Rev. Samuel McCrea Cavert.

**FEDERAL RESERVE BANK.** See FINANCIAL REVIEW.

**FEDERAL TERRITORY.** A territory of the Commonwealth of Australia, lying within the state of New South Wales. Area, 940 square miles; population, according to the census of 1921, 2572; estimated June 30, 1925, 4455. The bulk of the territory was acquired by the Commonwealth from New South Wales in 1911, as the site of the new capital, Canberra; 28 additional miles were obtained in 1917 as the site for a naval college.

**FEDERATED MALAY STATES.** A group of states, constituting a large part of the Malay Peninsula, under the protection of Great Britain, comprising: Perak, with an area of 7800 square miles; population in 1921, 590,055; capital, Taiping; Selangor, 3156 square miles; population, 1921, 401,009; capital, Kuala Lumpur, the largest city in the federation with a population of 80,000; Negri Sembilan, 2550 square miles; population, 1921, 178,762; capital, Seremban; Pahang, 14,000 square miles; population, 1921, 146,064; capital, Kuala Lipis. The total area is 27,506 square miles; with a population in 1921, of 1,324,890, comprising 510,821 Malays, 494,548 Chinese, 305,219 natives of India, 5686 Europeans, and 3204 Eurasians. The males greatly outnumber the females (853,528 to 471,362), which is due to the large number of Chinese and Indian immigrants. The estimated population in June, 1924, was 1,418,455. The movement of population in the same year was: Births, 39,512; deaths, 33,585. In 1924 there were 44 English schools, with an average enrollment of 10,254 boys and 2500 girls. Vernacular schools under the control of the education department numbered 640 with an average enrollment of 34,501. There are many vernacular schools for the Chinese not maintained by the government.

The chief products include: Rice, coconuts, rubber, sugar, tapioca, pepper, gambier, and nipa palms. The main industries are the raising of rubber and the mining of tin. In addition to valuable timber, the forests produce resins, canes, gutta percha, etc. Besides tin, gold is mined extensively; other minerals found but not worked in quantities are lead, iron, copper, manganese, silver, zinc, plumbago, mercury, arsenic, and scheelite. In 1925, 45,925 tons of tin were exported. At the end of 1924 the number of persons engaged in the mining indus-

try was 100,479. According to the United States Bureau of Foreign and Domestic Commerce the foreign trade of British Malaya in 1925 exceeded that of any previous year in its history. Exports of \$715,818,000 and imports of \$540,760,000 netted a credit balance of trade amounting to \$175,058,000. These figures compare most favorably with those for the trade of 1924, when exports amounted to \$369,793,000 and imports to \$340,013,000.

Throughout the year the great impetus to the unprecedented trade advance was the rubber situation. In the first quarter rubber prices were higher than at any time during the previous year, and levels that were much higher were reached in the third and last quarters. Gross exports totaled over 300,000 long tons for the year. Of this amount approximately 73 per cent was shipped to the United States, 22 per cent to Europe and 3 per cent to Japan. High prices for tin were also maintained throughout the year. The total trade with the United States reached the unprecedented total of \$325,162,000, of which \$313,941,000 represented imports into the United States and \$11,221,000 exports from the United States.

In 1924 the revenue of the states was £8,250,131 and the expenditure, £6,162,983. The public debt of Dec. 31, 1924, was £11,105,000. The total railway mileage open for traffic in 1924 was 1072 miles. The Federated Malay States railways enjoyed a successful year financially during 1925, according to the annual report of the general manager and chief engineer. The period which the report covers was one of great prosperity in the tin and rubber industries, the most important in British Malaya. This prosperity was reflected in the increased railway tonnages and receipts, the latter from all sources totaling £2,186,724; an increase of 15.63 per cent over 1924. Passenger receipts showed increase of 16.41 per cent over 1924, and amounted to £790,522. The railways carried 1,786,000 more passengers than in 1924, the greatest number since the "boom" year of 1920.

The states are under British protection and the British government is represented by the governor of the Straits Settlements who is *ex officio* high commissioner for the Federated Malay States. High Commissioner in 1926, Sir Lawrence Nunn Guillemard.

#### FEDERATION OF LABOR, AMERICAN.

See LABOR, AMERICAN FEDERATION OF.

#### FEHRENBACH, fär'en-bäig, CONSTANTIN.

Former chancellor of the post-war German Reich, and a leader of the Centre political party, died at Berlin, March 26. He was born at Freiburg in 1852, and in 1903 was sent to the Reichstag by the Centre Party of Baden. He was selected by his party at the time of the Zabern incident, for his knowledge of Alsace and its people, to represent it in the debate on the vote of no confidence against Von Bethmann Hollweg. In this speech, he spoke against the methods of the Prussian army in Alsace and achieved a reputation which continued through his life. After the election of June, 1920, at the invitation of President Ebert, he formed a cabinet composed of representatives of the Centre, Democrats, and People's parties with Dr. Simons as foreign minister and Dr. Wirth as finance minister. It was during this ministry that the great reparation struggle was begun, and the German delegation to the Spa Con-

ference, the first time the Germans had met with their former enemies since Versailles, was headed by Herr Fehrenbach. He participated in the various financial conferences which followed, serving until May 4, 1921, when he resigned, and a new Cabinet was formed by his finance minister and fellow citizen in Freiburg, Dr. Wirth.

**FENCING.** The international match between United States and British teams for the Robert M. Thompson Trophy was the outstanding feature of the fencing activities during 1926. The final score of the contest was 27 to 21 in favor of the Americans. Leo Nunes of the New York A. C. made the best showing in the United States national championships, taking the sabre, epee and three-weapon honors. The Fencers' Club of New York again proved to be the leader in team title tests, winning the foils, epee and three-weapon contests. The sabre crown was won by the New York A. C. Mrs. Leon Schoonmaker of New York City successfully defended her women's national foils championship.

In the annual intercollegiate title tournament Yale emerged victorious with a clean sweep of the events. Two midshipmen from the United States Naval Academy captured individual titles, Eskilson winning with the sabre and Bennett with the epee. Joseph Levis of the Massachusetts Institute of Technology won the foils championship. In the annual Oxford-Cambridge series, Oxford triumphed with the epee and Cambridge with the foils, while the sabres were halved.

**FENNER, BURT LESLIE.** American architect, died at New York, January 25. He was born at Rochester, N. Y., Sept. 5, 1869, and after studying at the University of Rochester attended the Massachusetts Institute of Technology from 1890-91. In 1891 he entered the office of McKim, Mead & White in New York and was admitted to that firm Jan. 1, 1906, a connection he maintained until his death. Among the buildings designed by that firm in which Fenner had an important part were the New York City Municipal Building, the Post Office Building, Bellevue Hospital, Columbia University buildings, Metropolitan Museum of Art, the J. P. Morgan Library building, the Pennsylvania Railroad Station, and the Hotel Pennsylvania. During the World War he was general manager of the United States Housing Corporation of the United States Department of Labor.

**FERGUSON, FRANK WILLIAM.** American architect, died at Boston, Mass., October 4. He was born at Portsmouth, N. H., Nov. 3, 1861, and studied in the class of 1887 in the scientific department of Dartmouth College. Practicing architecture in Boston, he became associated with Ralph Adams Cram under the firm name of Cram & Ferguson. This firm were the architects of the new buildings of the United States Military Academy, West Point, St. Thomas' Church, N. Y., the Cathedral of St. John the Divine, N. Y., Rice Institute of Texas, and buildings for Princeton University, Williams College, Richmond College, and other educational institutions, as well as consulting architects of St. Alban's Cathedral of Washington, D. C. Ferguson was a member of the American Institute of Architects, and of the Boston Society of Architects.

**FERNALD, BERT MANFRED.** United States Senator from Maine, died at West Poland, Me., August 23. He was born at West Poland, Me.,

April 3, 1858, and after attending the public schools, Hebron Academy, and Boston business and preparatory schools, entered business. In 1888 he established a sweet corn canning factory at Poland, an enterprise that gradually extended until at the time of Senator Fernald's death, the concern was operating huge canneries at Poland, Oxford, Cornish, Bryant Pond, Turner, and Lisbon, employing 1000 persons, and packing some 25,000 cans of corn a day. Senator Fernald was a director of the Fidelity Trust Company of Portland, of the Poland Dairy Company, and President of the Poland Telegraph Company. He was a member of the executive committee of the National Canners' Association in 1910. He served as superintendent of schools of Poland, and in 1897 was elected to the lower house of the Maine Legislature. In 1899-1901 he was state senator, and in 1908 he was elected as governor and reelected in 1910. During his administration the new state house at Augusta was built and various state commissions were created to preserve the forest and water supplies of the State.

In 1916 on the death of Edwin C. Burleigh he was elected to the United States Senate for the unexpired term 1916-19, and in 1918 was reelected for the full term. In 1924 he won the nomination in a contest with Representative Frank E. Guernsey, and was reelected by a large majority in a campaign where the Ku Klux Klan issue was raised by the Democratic candidate for governor, W. R. Pattengall. In the Senate Mr. Fernald was an active and useful member, serving on several important committees. He was the author of the bill for building the great memorial bridge across the Potomac from the Lincoln Monument to the old home of General Lee, and advocated the appropriation of \$17,000,000 for additional hospital accommodations for soldiers. He opposed the bills introduced to provide government regulation of the packing industry, and while listed as a regular Republican he frequently voted against a majority of his party. He was opposed to the World Court and against the soldiers' bonus, but in January, 1925, voted to uphold the President. He was an advocate of the public buildings programme introduced by Secretary Mellon providing large appropriations for the District of Columbia and the nation at large, serving as the chairman of the Committee on Public Buildings and Grounds. He also was a member of the committees on Interstate Commerce and Pensions, and was considered a pleasing and forceful speaker.

**FERTILIZERS.** At the end of 1926 it was estimated that the world used \$300,000,000 worth of fertilizers annually. With increase of population and food needs of the world, more intensive farming requiring greater use of fertilizers is inevitable. A recent writer in *Nature* says "there is big business in fertilizers to-day, there will be bigger business to-morrow; and no progressive country will be able to afford to neglect provision of these basic raw materials of food production."

Fortunately, recent investigation has tended to show that, if applied with proper care, fertilizers can be used in large amounts not only with profit but without injury to the soil. Truck growers of Florida use high-grade fertilizers at rates of 2000 to 4000 pounds per acre, and fertilizers are used at even higher rates for cer-

tain purposes in California and other States. The per acre consumption in the United States is, however, much lower than in Holland, Germany, Belgium, and some other countries, and there appears to be no doubt that even in the high consuming countries the use of fertilizers might be materially increased with profit.

The present trend is strongly toward the increased use of more concentrated fertilizers. The fertilizer industry, founded primarily to salvage certain waste products, is becoming a great chemical manufacturing industry. The campaign of the U. S. Department of Agriculture, the agricultural experiment stations, and the fertilizer manufacturers for more concentrated high-grade fertilizers is beginning to show marked results. Ordinary fertilizers on the market have a content of 15 to 16 per cent of actual plant food, representing an increase of 15 to 20 per cent in plant food in the last 5 years, and resulting in a marked decrease in the number of brands. The manufacture of highly concentrated fertilizer materials is increasing, and such fertilizers are beginning to appear on the market in considerable quantity. Their practical value and best methods of distribution were being extensively studied. It had been demonstrated that concentration did not diminish the efficiency of the fertilizers and that mechanical and other difficulties of distribution could be overcome by comparatively simple means. The importance of concentration was emphasized by the fact that probably 25 per cent of the cost of fertilizers was for transportation.

Lawrence Myers, of the University of Minnesota, concludes from a study of the index of wholesale prices of commodities prepared by the Department of Labor that "with the exception of the war period, the trend of fertilizer prices has been downward since 1897. From 1922 to the present they have stood at roughly 70 per cent of their 1913 level." He concludes that "fertilizer prices are low enough to lead to large consumption," but points out that "fertilizer price is not the only, or the most important, factor in determining consumption."

The use of fertilizers fluctuates with crop values and farm income and continues to be restricted by low purchasing power of the farmer, notwithstanding the fact that the price is relatively low as compared with other commodities the farmer has to buy. The present outlook indicates that substantial progress in the direction of cheaper fertilizers may be expected from (1) increased and cheaper production of nitrogen compounds from the air, (2) cheaper and more concentrated substitutes for acid phosphate, and (3) abandonment of use of low-grade fertilizing materials.

The rapid development of the synthetic nitrogen industry is certain to have a profound and far-reaching effect upon the fertilizer industry and the use of fertilizers. The estimated production of synthetic nitrogen compounds in 1926 was 600,000 metric tons. Production already had exceeded domestic needs in Germany and bade fair to do so in France and England. The production in the United States was still relatively small. The necessity for finding an outside market for the excess products of the German fixation plants led to an active sales propaganda and the putting on the market of a number of products of the industry. Of the world's consumption of inorganic nitrogen, estimated to be

about 1,500,000 tons, 27 per cent was being supplied by Chilean nitrate, 30 per cent by coke industry by-products, and 43 per cent by fixed air nitrogen compounds.

The synthetic ammonia process was being most largely used in the preparation of fixed nitrogen compounds. The introduction and successful operation of the Claude process in the United States was regarded as the most important development of the year. The combined capacity of the commercial synthetic ammonia plants operation in the United States was considered sufficient to supply all the ammonia needed for refrigeration and the chemical industry, and the conversion of ammonia into urea, a form better suited to agricultural purposes, was receiving attention and was making satisfactory progress. The Fixed Nitrogen Research Laboratory of the Department of Agriculture had in successful operation for a year a process by which ammonia could be economically converted into urea by synthesis with carbon dioxide.

A joint commission of the United States Congress, consisting of three members of the House of Representatives and three of the Senate, appointed to seek and pass upon bids for private operation of the Muscle Shoals plant, recommended acceptance of the bid of the Muscle Shoals Power Distributing Company and the Muscle Shoals Fertilizer Company, on the ground that this was the most satisfactory offer from the standpoint of both national defense and fertilizer production. No action, however, had been taken upon this recommendation at the close of the year. The welfare of the nation in peace, as well as its safety in war, points to the wisdom of so operating this plant as to make the country potentially independent of any outside monopoly for its necessary supply of nitrogen compounds.

There recently was great activity in the production of by-product ammonium sulphate. It was reported that more than 11,700 ammonia recovery ovens were in operation in the United States in 1925 and that 290 more were added in 1926. The total production of ammonium sulphate in the United States was given as 150,000 tons, 40 per cent of which was used as fertilizer. Great Britain was reported to be producing ammonium sulphate at the rate of 430,000 tons annually, of which 238,000 tons is exported.

In view of the increased production of ammonium sulphate, its better use as a fertilizer is receiving unusual attention. It has been found to be especially well suited to alkaline soils and certain kinds of crops, as for example, rice, coffee, and perhaps others, and that its efficiency may be increased by using it in combination with other substances, which neutralize its tendency to increase the acidity of the soil.

The world's consumption of Chilean nitrate was reported to have declined from 2,350,000 long tons in 1925 to 2,077,000 tons during the year ended June 30, 1926. The consumption in the United States, which had been the chief customer for nitrate, declined 12 per cent. This was accounted for, in part at least, by increased production of ammonium sulphate and synthetic nitrogen compounds. It was believed to be accounted for mainly by high price of the nitrate. A new schedule of prices, put into effect by the Chilean Nitrate Producers' Association, reduced the price of nitrate for 1926-27 about 5 per cent below that of the preceding year and, it was

held, "brings nitrate prices somewhat closer to the general world level of prices for fertilizer nitrogen, but leaves a considerable price differential between nitrate nitrogen and nitrogen in ammonium sulphate." A new and improved refrigeration process of removing the nitrate from solution is being put into operation and is expected to increase the efficiency and reduce the cost of extraction of nitrate. The question of reducing the Chilean government export tax, which has remained at \$11.20 per short ton since it was first imposed 29 years ago, was under discussion.

**POTASH.** The Franco-German potash monopoly continued to control the potash supply and price of the world. Substantially pre-war prices prevailed. Ninety per cent of American imports of potash come from German and French sources. The United States produces only about 10 per cent of the 250,000 tons of potash it uses annually. Further efforts were made during the year to encourage development of domestic production of potash. Congress appropriated \$100,000 annually for the five years 1927 to 1931, inclusive, to enable the Departments of the Interior and Commerce to determine the location, extent, mode of occurrence, and nature of potash deposits in the United States. As a result of explorations by the Geological Survey in Texas, New Mexico, and Utah, potash minerals have been found which indicate the occurrence of American deposits similar to those of Germany and France. The method developed by the U. S. Bureau of Soils for the recovery of potash and the manufacture of certain valuable by-products from greensand was further elaborated. This offers a possible means of profitable utilization of the greensand of New Jersey and other Atlantic States, which is the largest known source of potash in this country. The discovery of large deposits of potash salts in the western part of the Government of Perm, Russia, was reported during the year.

The phosphate situation during the year was one of relative stability, except that there was noteworthy progress in the development of the Moroccan phosphates, which are coming into sharp competition with American phosphates in the European and South African markets.

**SUMMARY.** The fertilizer situation at the end of 1926 was in brief as follows: With the exception of nitrogen, the raw materials for the manufacture of fertilizers are abundant. There seems to be almost no limit to the possible production of synthetic nitrogen compounds from the air. The production of such compounds is rapidly developing and is already important. Production of ammonium sulphate is running ahead of the demands for it in the fertilizer industry. The present known sources of potash are large, and additional sources are being sought with promise of success. Phosphate production is adequate and is being increased, especially by development of the North African deposits.

**BIBLIOGRAPHY.** Two important books relating to fertilizers appearing during the year were: *Potash*, by J. W. Turrentine (New York, 1926); and *Fertilizers*, by E. B. Voorhees, revised by S. B. Haskell (New York, 1926).

**FESTIVALS.** See MUSIC.

**FICTION.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; SPANISH LITERATURE; ETC.



**FIDELITY INSURANCE.** See **INSURANCE.**  
**FIELD ATHLETICS.** See **ATHLETICS,**  
**TRACK AND FIELD.**

**FIJI ISLANDS.** A British crown colony, comprising a group of islands in the South Pacific about 250 in number (some 80 inhabited). Area, 7083 square miles; population at the census of 1921, 157,266, of whom 84,475 were Fijians, 60,634 Indians, and 3878 Europeans. The largest island is Viti Levu (4053 square miles) and the next Vanua Levu (2130 square miles). The capital, Suva, on the south coast of Viti Levu, had a European population (including suburbs) of 1741. Coconuts, sugar cane, rice, tobacco, tea, tropical fruits, beans, sisal, and hemp are the principal products. Horses, mules, cattle, sheep, goats, and pigs are raised. No later figures for trade are available than those given in the preceding YEAR BOOK when the exports in 1924 were valued at £1,498,934 and the imports were £1,066,594. Imports from the United Kingdom in 1925 totaled £289,613 and exports to the United Kingdom were £568,708. The revenue in 1924 was £488,906; expenditure, £451,257; public debt, £359,200. The total tonnage which entered and cleared in 1924 was 799,214 tons of which 690,076 were British. A privately owned small gauge railway of 120 miles runs from Tavua to Sigatoka. The executive power is vested in a governor, appointed by the crown, aided by an executive council and a legislative council of which the governor is president. The governor is also High Commissioner for the Western Pacific. Governor in 1926, Sir Eyre Hutson.

**FINANCIAL REVIEW.** Unusual prosperity prevailed during the year 1926 throughout the United States and statistics showed that nearly every kind of product, both of raw and manufactured articles, attained an uncommonly high output. Trade and industry were fully financed, and foreign trade was highly prosperous. Two main periods or divisions in the year's operations may be noted, the first covering the months prior to May, the second the months from May onward to near the close of the year. Apparently a third period had set in soon after the beginning of December. During the first four months, business was in a somewhat uncertain condition, with hesitation as to forward orders and some doubt as to financial conditions. This doubt culminated in a sharp reaction of the stock market during the early spring, which carried prices decisively downward. It did not develop into any general financial depression, for the reason that conditions abroad shortly brought about a very unusual demand for American goods, for export, while at home the building boom, which had been expected to decline, maintained itself—the combined result being a very high level of demand. This, instead of receding during the mid-summer months, as is often the case, continued in full volume and reached record proportions in the early autumn. In many parts of the country, the activity of business led to a decline in failures, and for the country as a whole, failures were less in value than for 1925, showing a decrease of 8 per cent in liabilities. City banking continued prosperous and strong, but the bank failure epidemic which had been developed during the years 1924 and 1925, continued in the middle West and Northwest. Farming was highly productive with very large output both of grain and fruits, while

cotton produced a wholly unprecedented crop. Practically no unemployment prevailed during the year.

**BUSINESS ACTIVITY.** Business indicators for the year made a rather remarkable showing. The accompanying comparative table furnished by the Federal Reserve Bank of New York affords data with respect to some important elements in the situation which are usually regarded as indicative of conditions.

	[Computed trend of past years = 100 per cent]			
	1925	1926		
		Nov.	Sept.	Oct. Nov.
Primary distribution:				
Car loadings, mdse. & misc.	106	103	104	102
Car loadings, other	104	107	107	113
Exports	86	106	92	96 <sup>b</sup>
Imports	120	121	124	125 <sup>b</sup>
Distribution to consumer:				
Department store sales, 2nd Dist.	99	109	105	102
Chain store sales	99	95	99	98
Mail order sales	116	126	119	120
Life insurance paid for	112	116	109	117
General business activity:				
Bank debits, outside of New York City	111	110	113	106
Bank debits, New York City	125	123	122	112
Velocity of bank deposits, outside of New York City	102	98	105	99
Velocity of bank deposits, New York City	120	127	129	115
Shares sold on New York Stock Exchange	236	173	189	146
Employment in the United States	104	104	103	102
Business failures	102	94	107	111
Building permits	166	133	169	137
New corporations formed in New York State	125	112	122	112
General price level	187	186	186	185

<sup>a</sup> Seasonal variations not allowed for.

<sup>b</sup> Preliminary.

With these factors may well be associated the car loadings situation. Car loadings reached during the autumn, high record figures running well up toward 1,200,000 cars per week for a good while, with a total of about 52,700,000 for the year. The gross operating revenues for Class 1 roads were in the neighborhood of \$6,451,148,000 while net incomes were \$1,231,494,000. Earnings were computed as an average of 5.13 per cent, the net showing an increase over 1925 of \$92,798,000 and the result being a tremendous advance in stock market quotations for the shares of most of the principal lines. See **RAILWAYS.**

Steel and iron activity was satisfactory. The unfilled orders of the United States Steel Corporation showed some fluctuations at different times during the year but held up well, while the manufacturing activity of the concern was good during most of the time. Unfilled orders, as revealed in the final statement of December 10 showed 3,960,969 tons as against 5,033,000 tons a year earlier—an increase also over the month of November of about 150,000 tons. Unusually good orders for railroad building and certain kinds of building construction also marked the close of the year while the end of December found the industry operating at an average of probably of about 75 per cent of capacity. Automobile demand had been expected to fall off but on the contrary was well sustained, although forward orders from that source during the latter part of the year were not as large as they had been expected to be. Activity, however, in other lines and in the oil industry

particularly, produced very good reflex results on steel.

PRICES. For the year 1926 movements of prices were even more stable than during the preceding year notwithstanding that 1925 had itself been a year of rather unusual steadiness. On the whole the tendency was downward, the Bureau of Labor Statistics index being approximately 156 at the beginning of the year and approximately 147 at the closing, the lowest level since July, 1924. Prof. Irving Fisher's index was approximately 159.3 at the beginning of the year and closed at about 146.1. Variations

from the average were slight, the widest fluctuations being in agricultural prices just as had been true the year before. Cotton showed the greatest variations, prices falling very sharply in the late autumn due to an unexpectedly large crop. The agricultural price index of the Bureau of Labor Statistics was 152 for December, 1925 while for December, 1926, it was 135. Textiles and clothing materials were 187 at the end of 1925 and 169 at the end of 1926. Foundry No. 2 pig iron reached a price of \$22.75 per ton at the close of 1926 while No. 2 wheat was \$1.54½. Beef was \$22 per hundred and pork

ABSTRACT OF REPORTS OF CONDITION OF NATIONAL BANKS IN THE UNITED STATES ON  
JUNE 30, SEPTEMBER 28, AND DECEMBER 31, 1925, AND APRIL 12 AND JUNE 30, 1926  
[In thousands of dollars]

<i>Resources</i>	<i>June 30, 1925— 8,072 banks</i>	<i>Sept. 28, 1925— 8,085 banks</i>	<i>Dec. 31, 1925— 8,054 banks</i>	<i>Apr. 12, 1926— 8,000 banks</i>	<i>June 30, 1926— 7,978 banks</i>
Loans and discounts (including rediscounts) * . . . . .	12,674,067	13,134,461	13,535,278	13,301,306	13,417,674
Overdrafts . . . . .	9,852	14,900	10,554	10,958	9,719
United States Government securities owned . . . . .	2,536,767	2,512,025	2,522,810	2,540,823	2,469,268
Other bonds, stocks, securities, etc., owned . . . . .	3,193,677	3,242,620	3,252,016	3,269,027	3,372,985
Customers' liability account of acceptances . . . . .	176,583	201,083	277,513	265,066	232,460
Banking house, furniture, and fixtures . . . . .	585,267	593,176	606,474	621,825	632,842
Other real estate owned . . . . .	111,191	114,677	113,741	113,987	115,869
Lawful reserve with Federal reserve banks . . . . .	1,326,864	1,324,326	1,376,992	1,288,664	1,381,171
Items with Federal reserve banks in process of collection . . . . .	466,787	456,660	572,090	487,345	501,409
Cash in vault . . . . .	359,605	362,341	390,116	367,573	359,951
Amount due from national banks . . . . .	1,096,768	1,120,925	1,192,948	1,062,811	1,080,617
Amount due from other banks, bankers, and trust companies . . . . .	403,366	393,869	425,518	388,932	400,822
Exchanges for clearing house . . . . .	988,294	733,816	1,127,241	774,989	899,901
Checks on other banks in the same place . . . . .	80,727	58,326	109,679	83,095	97,179
Outside checks and other cash items . . . . .	69,517	54,094	71,320	68,809	69,316
Redemption fund and due from United States Treasurer . . . . .	33,038	32,876	33,008	32,905	33,023
United States Government securities borrowed . . . . .					24,442
Bonds and securities, other than United States, borrowed . . . . .					8,173
Other assets . . . . .	238,993	219,346	235,114	215,555	218,803
<b>Total . . . . .</b>	<b>24,350,863</b>	<b>24,569,527</b>	<b>25,852,412</b>	<b>24,893,665</b>	<b>25,315,624</b>
<i>Liabilities</i>					
Capital stock paid in . . . . .	1,369,435	1,375,009	1,379,101	1,410,434	1,412,872
Surplus fund . . . . .	1,118,928	1,125,495	1,166,601	1,188,704	1,198,899
Undivided profits, less expenses and taxes paid . . . . .	481,711	543,564	476,207	500,519	477,587
Reserved for taxes, interest, etc., accrued . . . . .	60,078	69,792	59,170	63,327	64,618
National bank notes outstanding . . . . .	648,494	649,221	648,461	649,452	651,155
Due to Federal reserve banks . . . . .	30,740	31,820	38,321	35,785	33,794
Amount due to national banks . . . . .	1,028,168	1,068,420	1,076,397	987,311	979,814
Amount due to other banks, bankers, and trust companies . . . . .	1,827,492	1,766,708	1,897,555	1,779,579	1,885,848
Certified checks outstanding . . . . .	224,089	251,505	261,813	258,034	217,123
Cashier's checks outstanding . . . . .	336,167	214,594	414,856	223,885	288,669
Demand deposits . . . . .	10,480,254	10,427,544	11,151,126	10,456,694	10,778,603
Time deposits (including postal savings) . . . . .	5,924,658	5,994,374	6,047,370	6,199,806	6,313,809
United States deposits . . . . .	108,101	175,097	193,222	234,704	144,504
<b>Total deposits . . . . .</b>	<b>19,909,669</b>	<b>19,930,062</b>	<b>21,080,660</b>	<b>20,175,798</b>	<b>20,642,164</b>
United States Government securities borrowed . . . . .	21,684	24,479	32,718	25,611	24,442
Bonds and securities (other than United States) borrowed . . . . .	3,530	3,976	3,625	4,053	3,173
Agreement to repurchase United States Government or other securities sold . . . . .	3,413	4,057	1,984	2,497	3,489
Bills payable (including all obligations representing borrowed money other than rediscounts) . . . . .	245,107	316,627	384,377	265,590	258,807
Notes and bills rediscounted (including acceptances of other banks and foreign bills of exchange or drafts sold with indorsement) . . . . .	233,874	245,537	264,505	258,713	268,801
Letters of credit and travelers' checks outstanding . . . . .	12,127	9,065	7,525	7,760	12,880
Acceptances executed for customers and to furnish dollar exchange less those purchased or discounted . . . . .	164,569	191,873	257,929	246,199	221,181
Acceptances executed by other banks . . . . .	28,773	28,542	39,595	39,493	29,801
Liabilities other than those stated above . . . . .	49,471	52,228	49,954	55,515	50,805
<b>Total . . . . .</b>	<b>24,350,863</b>	<b>24,569,527</b>	<b>25,852,412</b>	<b>24,893,665</b>	<b>25,315,624</b>

\* Includes customers' liability under letters of credit.

\$35.50 per hundred at the close of the year. Materials of manufactures were more stable than usual though considerable variations were noted in rubber as well as a few others. Sugar also showed considerable variation in price.

**AGRICULTURAL PRODUCTION.** During the first months of the year, unusual weather conditions with a long cold spring had stimulated the belief that conditions would inevitably be unproductive and that staple crops would consequently show a very low output. Conditions changed sharply toward the beginning of summer, and wheat particularly indicated marked improvement. Cotton had been greatly delayed by the bad weather but now took a fresh start, and owing to the fact that insect pests had apparently been greatly hampered by the long cold spring developed an unexpected volume of output. Comparative figures show the following results for principal crops but the value of cash wheat was as already stated only \$1.54½ at the close of the year while cotton had gone down to 12.60 cents for the January option. Foreign crops had turned out unexpectedly good and the outcome was to drive prices lower all around.

	1926	1925
Corn . . . . .bushels	2,645,000,000	2,917,000,000
Winter wheat . . . . .do	627,000,000	402,000,000
Spring wheat . . . . .do	205,000,000	275,000,000
All wheat . . . . .do	832,000,000	678,000,000
Oats . . . . .do	1,254,000,000	1,488,000,000
Flaxseed . . . . .do	19,000,000	22,000,000
Rice . . . . .do	41,000,000	33,000,000
White potatoes . . . . .do	358,000,000	323,000,000
Sweet potatoes . . . . .do	84,000,000	62,000,000
Apples . . . . .do	246,000,000	172,000,000
Peaches . . . . .do	68,000,000	47,000,000
Tobacco . . . . .pounds	1,323,000,000	1,377,000,000
Cotton . . . . .bales	18,600,000	16,100,000

**BANKING.** Banking conditions continued to show expansion and in some directions even inflation. Commercial demand was much heavier than in the preceding year. Speculative loans reached a high record figure at the beginning of the year which was curtailed as the result of sharp losses. After the spring "slump" in the stock market, brokers' loans were cut back to about \$2,600,000,000 but began steadily to climb higher, reaching a point about \$200,000,000 ahead of that figure toward the latter part of the year. The twelve months as a whole therefore proved to be a period of great banking growth. City banks found the year prosperous with large dividends and valuable privileges to stockholders. Nevertheless, in the West and middle West, the epidemic of bank failures which had proved so disastrous the year before continued to manifest itself, the total of failures for the year being in the neighborhood of 940. These failures, moreover, had involved larger institutions than ever before and threatened at certain periods to extend into States which had not been affected by them. The movement of national banks into State systems continued, while the consolidation and merging of small banks with large ones which has been so pronounced of late was a renewed feature of the year. The proposed legislation for the liberalizing of the national bank act continued to be discussed in Congress but without result.

National banking conditions continued to be of the same predominant interest as in preced-

ing years and may be presented in the accompanying statistical statement which shows the general upward movement of all items to which reference has already been made. Continued heavy investment in securities has been characteristic during the year just as during the preceding year.

**THE FEDERAL RESERVE SYSTEM.** The condition of the Federal Reserve System at the close of 1926 is indicated in the accompanying table which shows continued growth in the general operations of reserve banks and a disposition to enlarge the degree of reliance of member banks upon the reserve institutions themselves. While

**RESOURCES AND LIABILITIES OF THE TWELVE FEDERAL RESERVE BANKS COMBINED**  
[In thousands of dollars]

Resources	Dec. 29, 1926	Dec 22, 1926	Dec 30, 1925
Gold with F. R. agents	1,369,124	1,376,776	1,356,607
Gold redemption fund with U. S. Treas.	65,712	65,407	52,699
Gold held exclusively against F. R. notes	1,434,836	1,442,183	1,409,306
Gold settlement fund with F. R. Board	658,330	657,023	701,455
Gold and gold certificates held by banks . . .	721,645	704,074	593,520
Total gold reserves .	2,814,811	2,808,280	2,704,281
Reserves other than gold	129,404	106,985	117,852
Total reserves . . .	2,944,215	2,910,265	2,822,133
Non-reserve cash . .	68,348	47,073	62,053
Bills discounted:			
Secured by U. S. Govt. obligations . . . . .	383,388	422,397	466,014
Other bills discounted	327,543	293,227	283,658
Total bills discounted	710,931	715,424	749,672
Bills bought in open market . . . . .	378,798	387,593	362,818
U. S. Govt. securities:			
Bonds . . . . .	47,525	46,858	58,854
Treasury notes . .	86,279	89,844	192,077
Certificates of indebtedness . . . . .	183,400	177,704	126,101
Total U. S. Govt securities . . . . .	317,204	314,406	377,032
Other securities . . .	2,596	2,596	3,205
Foreign loans on gold	. . .	. . .	8,100
Total bills and securities . . . . .	1,409,529	1,420,019	1,500,827
Due from foreign banks	651	650	642
Uncollected items . .	728,043	785,171	717,599
Bank premises . . .	60,273	60,271	61,632
All other resources . .	13,074	13,154	18,272
Total resources . . .	5,224,133	5,236,603	5,183,158
Liabilities			
F. R. notes in actual circulation . . . . .	1,857,015	1,913,960	1,835,010
Deposits:			
Member bank—reserve account . . . . .	2,264,144	2,218,095	2,308,614
Government . . . . .	38,579	67,848	15,067
Foreign bank . . . . .	25,882	5,506	12,014
Other deposits . . . .	17,133	16,513	21,446
Total deposits . . . .	2,345,738	2,307,962	2,357,141
Deferred availability items . . . . .	650,096	644,012	635,681
Capital paid in . . . .	124,824	124,763	117,042
Surplus . . . . .	220,310	220,310	217,837
All other liabilities . .	26,150	25,596	20,447
Total liabilities . . .	5,224,133	5,236,603	5,183,158
Ratio of total reserves to deposit and F. R. note liabilities combined . . . . .	70.1%	68.9%	67.3%
Contingent liability on bills purchased for foreign correspondents . . . . .	55,857	52,437	65,049

the foreign operations of the system continued to be important in their psychological effect during 1926 just as during the preceding year, the Secretary of the Treasury announced to Congress at the opening of the winter session that the large credits arranged for Great Britain some months preceding had not been availed of. The major operations of reserve banks, therefore, continued to be of a semi-routine nature following the same lines that had been developed in connection with foreign central banks during 1925. Open market operations continued to attract a good deal of discussion but there was no new policy in this connection, conditions remaining substantially stable.

RESOURCES AND LIABILITIES OF THE  
FEDERAL RESERVE BANK OF NEW YORK  
(In thousands of dollars)

Resources	Dec. 29, 1926	Dec. 29, 1925	Dec. 30, 1925
Gold with F. R. agent	282,987	263,059	329,996
Gold redemption fund with U. S. Treas.	15,481	16,618	13,750
Gold held exclusively against F. R. notes	298,468	279,677	343,746
Gold settlement fund with F. R. Board	249,799	254,594	260,549
Gold and gold certificates held by bank	460,752	456,775	338,443
Total gold reserves	1,009,019	991,046	942,738
Reserves other than gold	23,262	19,220	26,075
Total reserves	1,032,281	1,010,266	968,813
Non-reserve cash	17,826	12,811	17,395
Bills discounted:			
Secured by U. S. Govt. obligations	123,873	146,971	254,469
Other bills discounted	49,782	27,273	40,506
Total bills discounted	173,655	174,244	294,975
Bills bought in open market	100,045	113,618	37,090
U. S. Govt. securities:			
Bonds	1,322	1,752	1,869
Treasury notes	14,246	16,832	47,483
Certificates of indebt- edness	50,525	44,875	11,582
Total U. S. Govt. se- curities	66,093	63,459	60,934
Foreign loans on gold	.....	.....	2,187
Total bills and securi- ties	339,793	351,321	395,186
Due from foreign banks	651	650	642
Uncollected items	177,653	185,558	163,427
Bank premises	16,740	16,740	17,294
All other resources	1,075	919	3,573
Total resources	1,586,019	1,578,265	1,566,330
Liabilities			
F. R. notes in actual circulation	408,621	421,548	384,682
Deposits:			
Member bank—reserve account	886,285	867,061	932,274
Government	12,259	28,762	2,226
Foreign bank	21,378	1,002	4,807
Other deposits	8,569	7,888	9,135
Total deposits	928,491	904,713	948,442
Deferred availability items	147,482	150,662	137,509
Capital paid in	36,449	36,434	32,207
Surplus	59,964	59,964	58,749
All other liabilities	5,012	4,944	4,741
Total liabilities	1,586,019	1,578,265	1,566,330
Ratio of total reserves to deposit and F. R. note liabilities com- bined	77.2%	76.2%	72.7%
Contingent liability on bills purchased for foreign correspond- ents	17,059	13,689	20,879

MONEY RATES. Taking the year 1926 as a whole, money rates continued to be practically stable with comparatively few fluctuations except those of a seasonal nature. Call funds followed very much the same course as during the preceding year with rates substantially parallel to those of 1925. As in the latter year, the closing weeks of the season witnessed a fairly sharp upward movement but the general charge for call money was seldom above 5 to 5½ per cent. The end of the year found call money technically quoted at 5½–6 per cent as against 6 per cent for the close of 1925. Reserve Bank rates were comparatively little altered during the season, a slight advance early in the year putting the figure throughout the system at a flat rate of 4 per cent as against 3½ preceding and this 4 per cent rate was maintained during the remainder of the year. Although constant agitation of the discount rate situation and demand for raising of the rate was frequently heard, it was without result, the condition continuing practically stable throughout the entire Federal Reserve system to the end of December.

Commercial paper showed a hardening tendency for the first part of the year followed by slight recession during the summer and renewed hardening toward the end. The closing figure for the year was 4½–4¾ per cent for prime paper as against 4¼ @ 4½ per cent for a year earlier. Less attractive types of paper were slightly higher at the close of the year but the net rate of return on Treasury certificates was about ½ point lower than it had been at the end of 1925.

During the latter part of the year considerable indication of money strain was apparent, and the fact that brokers' loans had been advanced to a figure of about \$2,800,000,000 was contributory to a feeling of some uncertainty. In ordinary circumstances the reserve rate would probably have been raised but the desire not to disturb the generally prosperous conditions retarded action, while the relationship which had been established between the British and European markets was also instrumental in producing a modification in general reserve policy. However, at the close of the year, it was apparent that the future development of the stock market would depend in no small measure on the policy to be followed by reserve banks with regard to their rates during the early months of the following season.

FOREIGN EXCHANGE. A few outstanding events marked the year as an important one in the foreign exchange field. Conspicuous among them was the fact that the Belgian franc had been placed on a relatively stable basis while very decisive improvement in French and Italian exchange had been developed. The accompanying figures show the outstanding changes that occurred in the major foreign currency quotations during the year. (See Page 264.)

French exchange had reached the lowest recorded level early in July and had been followed by Italian and Belgian quotations, the situation becoming so alarming as to necessitate heroic effort for the establishment of a stable government in France, with some apparent success in that direction. (See FRANCE.) In other countries restoration of the gold standard proved decidedly helpful, the year being, pretty well all through the European world, a year of decided recovery of soundness. Some of the smaller Eu-

PRINCIPAL RESOURCES AND LIABILITIES OF REPORTING MEMBER BANKS IN LEADING CITIES  
[In thousands of dollars]

	All reporting member banks			Reporting member banks in New York City			Reporting member banks in Chicago		
	Dec. 22, 1926	Dec. 15, 1926	Dec. 23, 1925	Dec. 22, 1926	Dec. 15, 1926	Dec. 23, 1925	Dec. 22, 1926	Dec. 15, 1926	Dec. 23, 1925
Number of reporting banks .....	688	689	719	54	54	61	45	45	46
Loans and discounts, gross:									
Secured by U. S. Government obligations .....	142,198	141,127	174,240	45,120	43,229	56,342	14,468	13,701	16,893
Secured by stocks and bonds .....	5,577,090	5,474,193	5,602,044	2,021,018	1,926,508	2,274,383	661,899	668,492	645,458
All other loans and discounts .....	8,720,963	8,763,875	8,341,323	2,526,109	2,546,356	2,263,912	719,257	714,940	682,507
Total loans and discounts .....	14,440,251	14,379,195	14,117,607	4,592,247	4,516,093	4,594,637	1,395,622	1,397,133	1,344,868
Investments:									
U. S. Government securities .....	2,337,282	2,391,477	2,559,842	857,185	858,908	913,386	142,653	163,498	176,967
Other bonds, stocks, and securities .....	3,176,976	3,101,868	2,911,869	864,770	866,178	795,174	211,117	211,232	198,692
Total investments .....	5,514,258	5,553,340	5,471,711	1,721,955	1,725,086	1,708,560	353,770	374,730	375,659
Total loans and investments .....	19,954,509	19,932,535	19,589,318	6,314,202	6,241,179	6,303,197	1,749,892	1,771,863	1,720,527
Reserve balances with F. R. banks .....	1,656,621	1,758,951	1,662,903	702,992	768,479	720,835	170,341	177,478	159,767
Cash in vault .....	362,839	324,045	360,898	85,113	72,305	93,465	30,188	25,370	29,197
Net demand deposits .....	12,945,976	13,214,138	13,063,497	5,060,338	5,147,735	5,188,575	1,191,706	1,222,649	1,154,458
Time deposits .....	5,774,735	5,782,401	5,308,071	899,512	904,703	797,432	524,907	521,294	507,213
Government deposits .....	163,365	163,355	257,315	45,326	45,326	63,401	8,562	8,562	15,437
Bills payable and rediscounts with F. R. banks:									
Secured by U. S. Government obligations .....	321,537	234,728	324,375	101,450	46,750	121,765	17,575	20,235	24,154
All other .....	182,891	129,925	222,280	15,450	3,100	27,328	7,412	4,528	19,812
Total borrowings from F. R. banks .....	504,428	364,653	546,655	116,900	49,850	149,093	24,987	24,763	43,966
Loans to brokers and dealers (secured by stocks and bonds) made by reporting member banks in New York City:—									
For own account .....				906,973	825,465				
For account of out-of-town banks .....				1,037,103	1,074,765				
For account of others .....				779,389	792,220				
Total .....				2,723,465	2,692,450				
On demand .....				2,037,857	1,996,696				
On time .....				685,608	695,754				

Currency	High	Date	Low	Date
Pound sterling	\$4.87	June 25	\$4.84	November 4
French franc	.0407	December 20	.0198	July 27
Lira	.0461	December 18	.0816	July 26
Belgian franc	.04545	January 21	.0207	July 12
Yen	.4908	November 6	.4345	January 2
Milreis	.1587	January 2	.1156	December 16

ropean countries such as Jugo-Slavia, Czecho-Slovakia and Roumania apparently reached a level at which substantial firmness could be reckoned upon while progress was also made in Brazil toward a form of the currency situation designed to put the milreis upon a more stable basis, although at the close of the year the quotation itself was decidedly disorganized due to doubt as to acceptance of the official programme. The disorganization of the trade situation between Poland and Germany resulted in continuous disorder in the Polish currency situation during the first half of the year and although measures of reform were initiated under foreign advice comparatively little success had been gained up to the close of 1926. Japanese yen showed considerably stability, the year closing with the yen only fractionally below par.

**SPECIE MOVEMENTS.** Once again the heavy foreign loans made by the United States helped

to bring about an adjusted international balance and hence to prevent any necessity of shipping specie in considerable amount. The movement of gold and silver is set forth in the accompanying table and from this it is clear that net importations of gold were about \$98,000,000 against a net export last year of \$135,000,000 while the distribution of specie, as shown by official figures between the principal importing and exporting countries, is also presented. The year, however, was without striking changes in the specie situation largely due to the more nearly stabilized position of exchange and international balances.

The chief countries from which the United States imported gold in 1926 and the approximate total sent by each were: Canada \$85,000,000; Chile \$22,000,000; Japan \$16,000,000; Mexico \$21,400,000; and Australia \$30,000,000. Gold was exported chiefly to Canada, \$42,000,000, and Germany, \$46,000,000. Silver was imported chiefly from Mexico, \$36,000,000, and Peru, \$20,000,000, and was shipped to British India, \$35,000,000; China, \$39,000,000; and the United Kingdom, \$12,500,000.

**NEW SECURITIES.** The usual annual compilation of the New York *Journal of Commerce* relating to railroad, industrial and public utility enterprises for the year showed that aggregate sales of these classes of issues amounted to \$3,689,411,000 as against \$3,642,000,000 the year before. This was an increase of about \$47,000,000 over the preceding year. Omitting refunding issues and sales designed to meet maturities, the new capital flotations amounted to \$4,000,000,000 as against \$3,250,000,000. New issues of industrial stocks amounted to \$802,000,000 as against \$1,034,000,000 the year before.

#### EXPORTS AND IMPORTS OF GOLD AND SILVER, 1925-26

	Gold	12 months ending December 1926	12 months ending December 1925	Increase (+) decrease (-)
Exports	\$115,708,000	\$262,640,000	— \$146,932,000	
Imports	213,504,000	128,273,000	+ 85,231,000	
Excess of exports		134,567,000		
Excess of imports	97,796,000			
Silver				
Exports	\$92,257,000	\$99,128,000	— \$6,871,000	
Imports	69,596,000	64,595,000	+ 5,000,000	
Excess of exports	22,661,000	34,532,000		
Excess of imports				

#### SUMMARY OF CORPORATE, FOREIGN GOVERNMENT, FARM LOAN, AND MUNICIPAL FINANCING FOR YEARS 1926 AND 1925

12 months ended December 31	New capital	1926 Refunding	Total	New capital	1925 Refunding	Total
Corporate:						
Domestic—						
Long term bonds and notes	\$2,417,694,530	\$641,357,970	\$3,059,052,500	\$2,231,304,875	\$435,951,425	\$2,667,256,300
Short term	249,168,795	45,313,900	294,482,695	220,657,250	87,329,000	307,986,250
Preferred stocks	509,323,500	34,256,000	543,579,500	594,285,552	42,526,200	636,811,752
Common stocks	577,759,185	98,802,800	676,561,985	558,255,990	51,728,899	610,083,889
Canadian—						
Long term bonds and notes	134,622,000	62,508,000	197,130,000	69,261,500	10,050,000	79,311,500
Short term	1,250,000	78,000	1,328,000	19,950,000	2,500,000	22,450,000
Preferred stocks	4,000,000		4,000,000	5,300,000	2,600,000	7,900,000
Common stocks	990,000		990,000		2,600,000	2,600,000
Other Foreign—						
Long term bonds and notes	343,974,000	50,815,000	394,789,000	291,536,000	2,000,000	293,635,000
Short term	29,000,000	6,000,000	35,000,000	56,500,000		56,500,000
Preferred stocks	47,740,000		47,740,000	38,000,000		38,000,000
Common stocks	41,480,740	3,419,300	44,900,040	15,575,000		15,575,000
Total corporate	4,357,002,750	942,550,970	5,299,553,720	4,100,725,167	637,384,524	4,738,109,691
Foreign Government	481,251,000	32,873,000	514,124,000	540,781,000	104,600,000	645,381,000
Farm Loan Issues	91,125,000	40,200,000	131,325,000	168,697,100	19,527,900	188,225,000
War Finance Corporation						
Municipal	1,310,585,724	19,364,882	1,329,950,606	1,855,789,152	43,848,840	1,399,637,992
Canadian	60,792,000	50,400,000	111,192,000	49,158,000	96,797,000	145,955,000
United States Possessions	10,422,500		10,422,500	8,715,000		8,715,000
Grand total	6,311,178,974	1,085,388,852	7,396,567,826	6,223,865,419	902,158,264	7,126,023,683

Sales of railroad bonds, notes and stocks were \$403,000,000 as against \$474,000,000 the year before. The year was characterized by the raising of capital through issues of subscription rights which in many cases took the place of new financing through sales, the outcome being to raise cash from stockholders rather than from any new buyers. Public utility financing continued heavy throughout the period with holding companies still in a quite conspicuous position.

The new and refunding issues of 1925 and 1926 classified by sources and stated in thousands of dollars as compiled by *The Commercial & Financial Chronicle* of New York, are shown in the table at the foot of the opposite page, 264.

Dividends on industrial shares amounted to \$619,475,000 as compared with \$591,000,000 for 1925. Dividends declared by steam railroads and tractions were \$431,610,000 as compared with \$400,000,000 for 1925.

GOVERNMENT FINANCING. The fiscal year 1926 ending with June 30 showed total ordinary re-

ceipts for the Government amounting to \$3,963,000,000 as against \$3,780,000,000 the year before. Ordinary expenditures amounted to a total of \$3,585,000,000, as against \$3,529,000,000, the amount applied to debt reduction for the year being \$317,000,000. Estimates for the fiscal year 1927 amounted to \$4,027,000,000 while ordinary expenses were estimated at \$3,644,000,000 and debt retirement expenses chargeable against ordinary income \$332,000,000. An unexpected surplus variously estimated at \$300,000,000 to \$400,000,000 made its appearance with the result that further cuts in taxation were promised by President Coolidge and were recommended to Congress at the opening of the short session in December. This, however, proved to be impracticable as an immediate matter from the legislative point of view. Treasury financial policies continued substantially the same with practically no new development. The accompanying tables furnish a complete survey of the income and debt position of the Government at indicated dates.

PRELIMINARY STATEMENT OF THE PUBLIC DEBT DECEMBER 31, 1926  
[On the basis of daily Treasury statements]

<b>Bonds:</b>		
Consols of 1930 . . . . .	\$599,724,050.00	
Panama's of 1916-1936 . . . . .	48,954,180.00	
Panama's of 1918-1938 . . . . .	25,947,400.00	
Panama's of 1961 . . . . .	49,800,000.00	
Conversion Bonds . . . . .	28,894,500.00	
Postal Savings Bonds . . . . .	12,881,080.00	
		\$766,201,210.00
First Liberty Loan of 1932-1947 . . . . .	1,939,209,300 00	
Second Liberty Loan of 1927-1942 . . . . .	3,104,520,050 00	
Third Liberty Loan of 1928 . . . . .	2,189,956,950.00	
Fourth Liberty Loan of 1933-1938 . . . . .	6,324,463,950 00	
		13,558,150,250 00
Treasury Bonds of 1947-1952 . . . . .	763,948,300 00	
Treasury Bonds of 1944-1954 . . . . .	1,047,087,500.00	
Treasury Bonds of 1946-1956 . . . . .	494,898,100.00	
		2,305,933,900.00
<b>Total Bonds . . . . .</b>		<b>16,630,285,360.00</b>
<b>Treasury Notes:</b>		
Series A-1927, maturing Dec. 15, 1927 . . . . .	355,779,900.00	
Series B-1927, maturing Mar. 15, 1927 . . . . .	668,201,400.00	
Adjusted Service--		
Series A-1930 . . . . .	50,000,000.00	
Series A-1931 . . . . .	53,500,000.00	
Series B-1931 . . . . .	70,000,000.00	
		1,197,481,300.00
<b>Treasury Certificates:</b>		
Series TJ-1927, maturing June 15, 1927 . . . . .	378,669,500 00	
Series TS-1927, maturing Sept 15, 1927 . . . . .	229,269,500 00	
Adjusted Service--		
Series A-1927 . . . . .	23,800,000 00	
Civil Service Retirement Fund Series . . . . .	7,300,000.00	
		639,039,000 00
<b>Treasury Savings Certificates:</b>		
Series 1922, Issue of Dec. 15, 1921 . . . . .	95,905,953 05	
Series 1922, Issue of Sept. 30, 1922 . . . . .	14,442,252.75	
Series 1923, Issue of Sept. 30, 1922 . . . . .	128,106,621.05	
Series 1923, Issue of Dec 1, 1923 . . . . .	23,291,172 45	
Series 1924, Issue of Dec. 1, 1923 . . . . .	93,996,298.50	
		355,742,297.80
<b>Total interest-bearing debt . . . . .</b>		<b>18,822,547,957.80</b>
<b>Matured Debt on which interest has ceased:</b>		
Old debt matured—issued prior to Apr. 1, 1917 . . . . .	2,174,020.26	
Certificates of indebtedness . . . . .	1,800,500 00	
Treasury notes . . . . .	2,769,600 00	
3½ per cent Victory notes of 1922-23 . . . . .	28,850 00	
4½ per cent Victory notes of 1922-23 . . . . .	3,881,700.00	
Treasury Saving Certificates . . . . .	1,406,025.00	
		12,150,495.26
<b>Debt bearing no interest:</b>		
United States notes . . . . .	346,681,016 00	
Less gold reserve . . . . .	154,188,886 20	
	192,492,129 80	
Deposits for retirement of national-bank and Federal reserve bank notes . . . . .	41,763,577.00	
Old demand notes and fractional currency . . . . .	2,046,797.84	
Thrift and Treasury Savings Stamps, Unclassified Sales, etc. . . . .	3,664,379.65	
		239,966,884.29
<b>Total gross debt . . . . .</b>		<b>19,074,665,387.35</b>

\* Net redemption value of certificates outstanding.





RECEIPTS AND EXPENDITURES FOR THE FISCAL YEARS 1925 AND 1926, AND ESTIMATED RECEIPTS AND EXPENDITURES FOR THE FISCAL YEARS 1927 AND 1928, ON THE BASIS OF DAILY TREASURY STATEMENTS (UNREVISED) *a*—Continued

	Fiscal year, 1925	Fiscal year 1926	Fiscal year 1927	Fiscal year 1928
<i>Expenditures—continued</i>				
Interest on public debt .....	• 881,806,662.36	• 831,937,700.16	785,000,000	755,000,000
Refunds of receipts:				
Customs .....	22,920,891.05	27,744,697.78	18,010,600	24,410,500
Internal revenue .....	147,777,034.05	182,220,053.01	152,330,000	152,330,000
Postal deficiency .....	23,216,783.58	39,506,490.29	22,143,548	10,689,115
Panama Canal .....	9,092,818.69	9,017,719.00	9,794,611	9,042,189
Operations in special accounts:				
Railroads .....	7,204,992.53	2,725,800.85	3,250,000	1,200,000
War Finance Corporation .....	• 42,901,758.13	• 19,691,166.28	• 25,000,000	• 3,000,000
Shipping Board .....	30,304,859.54	23,043,032.04	27,080,000	23,880,000
Alien property funds .....	4,018,131.55	3,515,999.58	• 150,000	• 150,000
Adjusted service certificate fund .....	199,458,769.16	120,152,238.11	115,700,000	111,700,000
Civil service retirement and disability fund .....	9,745,622.04	10,815,743.02	• 250,000	• 250,000
Investment of trust funds:				
Government life insurance fund .....	\$31,991,713.82	\$38,290,345.65	\$42,731,866	\$45,550,000
District of Columbia teachers' retirement fund .....	258,006.70	297,036.87	305,000	320,000
Foreign service retirement fund .....	82,568.91	100,033.44	97,912	101,732
General railroad contingent fund .....	1,123,760.49	1,209,175.55	2,000,000	3,000,000
	\$3,063,105,332.26	\$3,097,611,822.81	\$3,077,545,946	\$3,008,991,588
Public debt retirements chargeable against ordinary receipts:				
Sinking fund .....	306,308,400.00	317,091,750.00	332,232,050	353,685,150
Purchases from foreign repayments .....	386,100.00	4,393,500.00	27,705,027	.....
Received from foreign governments under debt settlements .....	158,793,500.00	165,280,000.00	205,218,570	208,672,476
Received from estate taxes .....	47,550.00	.....	.....	.....
Purchases from franchise tax receipts (Federal reserve banks and Federal intermediate credit banks) .....	794,159.88	567,900.69	1,000,000	800,000
Forfeitures, gifts, etc. ....	208,403.95	62,900.00	.....	.....
	466,538,113.83	487,376,050.69	566,155,647	563,157,626
Total expenditures chargeable against ordinary receipts	3,529,643,446.09	3,584,987,873.50	3,643,701,593	3,572,049,214
Excess of ordinary receipts over total expenditures chargeable against ordinary receipts .....	250,505,238.33	377,767,816.64	383,079,095	200,703,868

*a* Excess of credits (deduct).

*b* Add.

*c* Investments made Jan. 1, 1925, for account of the fund were \$100,000,000 face amount of adjusted service series obligations, of which \$4,600,000 were redeemed to June 30, 1925, to provide funds for authorized payments to that date. Investments made Jan. 1, 1926, and Mar. 5, 1926, in similar obligations were \$120,000,000 face amount from the appropriations available on those dates and \$3,500,000 face amount from annual interest payments on investments. \$38,200,000 face amount of one-year Treasury certificates of indebtedness held in the fund matured Jan. 1, 1926, and after redemption the proceeds of principal were reinvested in like obligations maturing Jan. 1, 1927.

*d* Under provisions of the amendment of July 3, 1926, to the act establishing the civil service retirement and disability fund and regulations issued pursuant thereto, beginning July 1, 1926, expenditures for salary, pay, or compensation of employees entitled to the benefits of the act are at the full amount due. Retirement fund deductions are deposited monthly with the Treasurer for credit to the fund. Amounts not required for authorized payments are invested by the Treasury in special issues of Government obligations bearing interest at the rate of 4 per cent per annum, payable on June 30 each year, which is the same rate prescribed in the act for earnings on the deductions from salary, pay, or compensation. The figures for the fiscal years 1925 and 1926 represent only investments of employees' contributions not required for current expenditures.

**COMPARATIVE PUBLIC DEBT STATEMENT**  
*[On the basis of daily Treasury statements]*

	When war debt was at its peak	Dec. 31, 1925 A year ago	Aug. 31, 1919 Sept. 30, 1926 Last quarter	Nov. 30, 1926 Last month	Dec. 31, 1926
Gross debt . . . . .	\$26,596,701.64	\$20,248,169.68	\$19,472,570.53	\$19,389,019.30	\$19,074,665.37
Net balance in gen- eral fund . . . . .	1,118,109,534.76	328,707,932.66	411,845,322.37	140,152,490.10	227,010,246.40
Gross debt less net balance in general fund . . . . .	25,478,592,113.25	19,919,461,705.77	19,060,724,731.45	19,248,866,810.27	18,847,655,090.95

**BUSINESS FAILURES.** Further development of the situation of the preceding year as regards business failures was the chief characteristic of 1926. The tendency on the whole was toward lower levels particularly in the Eastern part of the country although considerable numbers of failures especially among the banks continued in the West and South. This latter situation was aggravated by the failure of various "chains" of banks at a number of points throughout the country. The following table gives a brief survey of the failure situation in the United States by months:

	Number		Liabilities	
	1926	1925	1926	1925
December . . . . .	2,069	1,878	\$45,619,578	\$36,528,160
November . . . . .	1,830	1,672	32,693,993	35,922,421
October . . . . .	1,763	1,581	33,230,720	29,543,870
4th quarter . . . . .	5,662	5,131	111,544,291	101,994,451
September . . . . .	1,437	1,465	29,989,817	30,687,319
August . . . . .	1,593	1,513	28,129,660	37,158,861
July . . . . .	1,605	1,685	29,680,009	34,505,191
3rd quarter . . . . .	4,635	4,663	87,799,486	102,351,371
June . . . . .	1,708	1,715	29,407,523	36,701,496
May . . . . .	1,730	1,767	33,543,318	37,026,552
April . . . . .	1,957	1,939	38,487,321	37,188,622
2nd quarter . . . . .	5,395	5,451	101,438,162	110,916,670
March . . . . .	1,984	1,859	30,622,547	34,004,731
February . . . . .	1,801	1,793	34,176,348	40,123,017
January . . . . .	2,296	2,317	43,661,444	54,354,032
1st quarter . . . . .	6,081	5,969	108,460,339	128,481,780

**STOCKS AND BONDS.** According to the official figures of the New York Stock Exchange the total number of shares sold on the Exchange for the year was 451,000,000 as compared with 453,000,000 in 1925. The Exchange went through several different phases beginning with a downward movement followed by a definite slump early in the season, this being then succeeded by comparative quiet until early summer, when an almost unprecedented boom set in and was maintained until well into the autumn. This was succeeded by a quieter period with a short lived end of the year "bull market." The par value of bonds sold during 1926 was \$2,988,000,000 as compared with \$3,400,000,000 in 1925. In all, million share days numbered 200 and two million share days 41 while on three occasions more than three million shares were exchanged in the course of a single session. Stock Exchange seats advanced still further during the year reaching a top level of about \$175,000 as against about \$150,000 at the end of 1925. Stock speculation as well as stock buying for investment was on a larger and broader scale than in any preceding year. After the spring slump was over stock prices continued to move steadily forward reaching practically topnotch levels at the close of the autumn. Early in the year just after the spring "slump" the stock index (50 issues),

averaged about 109.63 and this figure was advanced to 142.35 toward the close of December.

General earnings conditions throughout the industrial field continued to be excellent all through 1926, the railroads particularly showing marked improvement in their earnings for the year, as already stated. Probably in no preceding year had there been more extra dividend and stock dividends on the part of all classes of corporations. Bonds reached a high level of value by the middle of the year and held or slightly bettered it during the second half. A combined bond index including rails, industrials and public bonds, indicated a figure of about 89.75 at the close of December as against 85 a year earlier. Increasing volumes of bonds were purchased by financial institutions and the practice already pretty well developed of issuing under the head of bonds what were really common stocks continued to be resorted to although arousing considerable criticism on the part of economists and bankers.

**FINANCING.** See RAILWAYS.

**FINCK, HENRY THEOPHILUS.** A distinguished American musicologist and critic, died at Rumford Falls, Me., October 1. He was born at Bethel, Mo., Sept. 22, 1854. While pursuing his academic studies at Harvard (A.B. 1876), he attended at the same time the courses in theory and history of music of Prof. J. K. Paine. After two years of graduate work there in sociology and psychology he won the Harris Fellowship, which enabled him to spend the next three years in study and research at Berlin, Heidelberg and Vienna. In 1881 he returned to the United States and became musical critic and editorial writer for the *New York Evening Post*, continuing in that position uninterruptedly until his resignation in 1924. He began his career as a writer on musical subjects in 1876, when he was commissioned by the *New York World* to report the first Bayreuth Festival. During his stay in Europe he also wrote accounts of musical activities for *The Nation*. No musical critic in this country exerted a wider or more beneficial influence than Finck. He was a man of profound convictions, possessed of the gift of expressing himself in elegant, forceful and convincing style. At all times he was the champion of progress, and his taste was such that he never espoused an unworthy cause. At the end of his life he had the satisfaction of knowing that public opinion had accepted almost all his judgments as valid. He was one of the earliest, and perhaps the most energetic, protagonist for the new art of Wagner. He was the first one in America to proclaim the true greatness of Chopin, Schumann, Franz and Grieg by emphasizing the fact that genuine musical content, even in the smaller forms, will ultimately triumph over mediocrity parading in the larger forms.

Whatever recognition MacDowell enjoyed during his life was due, next to Carreño's masterly performance of the works, largely to Finck's ardent championship. Liszt, Tchaikovsky and Dvořák also would probably have had less rapid enthusiastic appreciation in the United States, had their genius not found a sympathetic exponent in the writings of Finck. Although at first rather skeptical as to the merit of Richard Strauss, Finck gradually became convinced of that composer's towering greatness. What, in view of such brilliant achievement, will always remain a puzzle is the critic's violent and persistent aversion toward two of the supreme masters, Brahms and Wolf. On the other hand, it seems but natural and logical that the champion of Wagner and Chopin should have been an uncompromising opponent of the atonal and polytonal extravaganzas of the futurists. Finck's principal work is *Wagner and His Art* (2 vols., 1893), which has passed through several editions and was also translated into German. Other important books are: *Chopin and Other Musical Essays* (1899), *Songs and Song Writers* (1900), *Grieg and His Music* (1909), *Massenet and His Operas* (1910), *Richard Strauss: The Man and His Work* (1917), *Musical Progress* (1923). Among several books outside the field of music the more important are: *Romantic Love and Personal Beauty* (1887), *Primitive Love and Love Stories* (1899), *Food and Flavor* (1913). A few weeks after his death appeared his interesting autobiography: *My Adventures in the Golden Age of Music*.

#### FINE ARTS. See PAINTING AND SCULPTURE.

**FINLAND.** An independent republic of Europe; formerly a grand duchy of the Russian Empire; an independent republic since 1917; bounded on the east by Russia, on the north by the Arctic Ocean and Norway, on the west by Sweden and the Gulf of Bothnia, and on the south by the Gulf of Finland. Capital, Helsingfors.

**AREA AND POPULATION.** The total area exclusive of water is 132,642 square miles; population, according to the census of 1920, 3,364,807; estimated Dec. 31, 1924, 3,495,186. In 1924 the rural population made up 83 per cent of the total. The movement of population in the same year was: Births, 78,057; deaths, 53,442; marriages, 22,048; emigration, 5,429, of whom 4775 went to America. The principal towns with their populations in 1924 are: Helsingfors, 207,954; Åbo, 60,412; Tammerfors, 51,035; and Viborg, 46,901. The Evangelical Lutheran religion is that of the national church to which the bulk of the population belongs, but freedom of worship is granted to all.

**EDUCATION.** In 1924 there were for primary instruction 4301 elementary schools, with 230,670 pupils; 1466 lower elementary schools, with 47,145 pupils; and (in 1920) 1407 infant schools under the superintendence of the church, with 170,577 pupils. In the towns there were 1394 classes of higher elementary schools with 43,318 pupils. For secondary education there were in 1924, 108 lycæums, with 2215 teachers and 32,366 pupils; 57 middle schools, with 542 teachers and 8040 pupils; 8 training colleges for school teachers, with 113 teachers and 1400 pupils; and 50 high schools for the people, with 321 teachers and 2423 students. There are three universities: One at Helsingfors with 293 teachers and 3068 students in 1925; two at Åbo;

one Swedish, with 34 teachers and 156 students and one Finnish, with 21 teachers and 154 students. There is also a great variety of agricultural, horticultural, forestry, industrial and other technical schools. In 1920 only 0.7 per cent of the persons who had reached their fifteenth year could neither read nor write.

**PRODUCTION.** The chief occupation of the people of Finland is agriculture. The land under cultivation in 1924 amounted to 5,231,877 acres. The area and production of the principal crops in 1924 were: Rye, 568,482 acres, 282,000 tons; barley, 273,763 acres, 128,000 tons; oats, 1,057,107 acres, 484,000 tons; potatoes, 167,243 acres, 624,000 tons; hay, 2,468,389 acres. The butter production in 1924 was 13,658 tons. The livestock census for 1924 showed 402,963 horses; 864,469 horned cattle; 484,529 sheep; 11,709 goats; 375,681 pigs; and 1,213,282 poultry. The forests are a great source of wealth, Finland being better off in this respect than any country in Europe except Russia. In 1924 there were 3212 large factories, employing 139,429 workers, and yielding an aggregate product of 9,345,000,000 marks. The chief industries are those connected with forest products, paper mills, and textile mills.

**COMMERCE.** The accompanying table from the *Statesman's Year Book* for 1926 shows the principal exports and imports for 1924 and 1925: in Finnish marks:

<i>Imports</i>	<i>1924</i>	<i>1925</i>
Cereals	801,811,851	964,845,088
Colonial produce and spices	684,989,674	881,930,886
Spinning materials	297,872,532	312,544,232
Textiles	550,435,238	580,317,120
Leather, hides, skins	168,460,526	251,839,779
Metals	515,201,834	474,235,940
Machinery	261,546,226	265,167,101
Minerals and earths	227,640,406	207,958,043
<i>Exports</i>	<i>1924</i>	<i>1925</i>
Animals (living)	4,571,155	10,412,865
Food obtained from animals	385,700,946	614,389,303
Timber	2,839,184,973	3,011,961,340
Pulp and paper	1,353,820,440	1,586,851,085
Leather, hides, skins	136,620,124	148,714,512
Minerals and earths	11,224,343	25,640,269
Gums, resins, and tar	12,641,548	15,531,120
Matches, explosives, etc.	44,945,492	34,269,148

According to the United States Bureau of Foreign and Domestic Commerce, exports declared from Finland to the United States showed a general decline as compared with 1924. The total value was \$7,745,365 as compared with \$8,812,560 for the previous year. The greatest decline took place in certain pulp and paper products. A considerable increase occurred in exports of unbleached sulphate wood pulp, as well as in unbleached sulphite.

**FINANCE.** The Finnish budget estimate for 1925 and for 1926 were balanced without resort to loans. The 1926 budget called for reduced direct and increased indirect taxes. The budget continued to be balanced with external assistance, but efforts were being made to reduce the state debt and to increase the reserve fund. The ordinary budget for 1926 showed a somewhat higher estimated surplus and a reduction in the withdrawals for the reserve fund. The state annually devotes considerable sums to various projects that represent an increase in capital investment, and carries on a number of commercial undertakings. The accompanying table gives a summary of Finnish budgets:

**SUMMARY OF FINNISH BUDGETS**  
[In million Finnish marks, paper]

Classification	1924 (actual)	1925 (estimated)	1926 (estimated)
<b>Expenditures</b>			
Ordinary .....	2,530.3	2,784.6	2,843.6
Extraordinary .....	605.2	* 625.7	* 569.5
Transfer to funds .....	.....	.....	.....
Outside of budget .....	13.9	.....	.....
<b>Total .....</b>	<b>3,149.4</b>	<b>3,360.3</b>	<b>3,413.1</b>
<b>Revenues</b>			
Ordinary .....	3,158.2	* 3,131.0	* 3,337.0
Extraordinary proper .....	1.7	0.5	1.0
Extraordinary outside of budget (transfers from State reserve fund) ....	57.1	228.8	75.1
<b>Total revenues proper ..</b>	<b>3,217.0</b>	<b>3,360.3</b>	<b>3,413.1</b>
Loans .....	.....	.....	.....
<b>Grand total receipts ..</b>	<b>3,217.0</b>	<b>3,360.3</b>	<b>3,413.1</b>
<b>Surplus .....</b>	<b>67.6</b>	.....	.....

\* Including the surplus allocated from the ordinary revenues, amounting in 1925 to 396,400 Finnish marks and in 1926 to 493,400 marks.

\* Including the surplus referred to above.

Finland's national debt on Dec. 31, 1926, amounted to 2,475,300,000 Finnish marks, of which 1,714,000,000 marks represents foreign loans.

**COMMUNICATIONS.** On Jan. 1, 1925, the merchant marine of Finland aggregated 4652 vessels of 457,884 net registered tons. In the same year 7307 vessels of 3,443,071 net tons entered the ports of Finland and 7243 vessels of 3,473,186 net tons cleared. The total length of the railroads (state) at the end of 1925 was 4434 kilometers, of which 192 kilometers were double track. Rolling stock consisted of 667 locomotives, 1167 passenger cars, and 18,052 freight cars. The total number of employees was 23,771, as compared with 20,352 during 1924. During 1925 the state railways showed a profit of 163,400,000 marks, exclusive of costs for old loans amounting to 220,066,400 marks. The total number of passengers transported was only 21,173,900, as against 27,522,400 in 1924. Freight traffic, on the other hand, showed a considerable increase, amounting to 8,807,299 metric tons as against 7,790,176 tons for the previous year. In spite of the decrease in passenger traffic, income from this source amounted to 240,296,100 marks, or 19,769,300 marks over the previous year's receipts. Freight traffic income amounted to 460,121,200 marks, an increase of 62,844,000 marks over 1924. Total revenue amounting to 726,224,000 marks, was 84,660,300 marks greater than for the year before, while expenditures increased to 562,795,000 marks from 561,620,000 marks. Thus the surplus of income was 163,429,400 marks, compared with 79,943,900 marks the year before.

**GOVERNMENT.** According to the constitutional law of July 17, 1919, Finland is a republic. Executive power is vested in a president elected for six years by the votes of the citizens and in a ministry appointed by him but responsible to the house of representatives; legislative power in a house of representatives consisting of 200 members chosen by direct and proportional election, all male and female citizens who have reached their 24th year possessing the right to vote. President of the Republic, Dr. Lauri Relander, elected Feb. 16, 1925. The cabinet as appointed in January 1926, was composed as follows: Prime Minister, Dr. K. Kallio; Foreign

Affairs, Dr. E. N. Setälä; Finance, Dr. K. Järvinen; Interior, G. Ignatius; Defense, A. L. Hjelman; Justice, U. Castrén; Education, Dr. L. Ingman; Agriculture, Dr. J. E. Sunila; Communications, J. Niukkanen; Commerce and Industries, T. Reinikka; Social Affairs, K. A. Lohi.

**HISTORY.** The year was a comparatively quiet and uneventful one as far as Finland was concerned. A new cabinet was formed on the last day of 1925 and assumed the burden of government laid down by Premier Tulenheimo. The new premier was M. Kallio, the leader of the Agrarian Party. He was assisted by M. Setälä, as Minister of Foreign Affairs and M. Hjelman, Minister of Defense.

**FIRE INSURANCE.** See INSURANCE; FIRE PROTECTION.

**FIRE PROTECTION.** In 1926 according to the annual summary of *The Journal of Commerce* (New York) the fire loss record of the United States and Canada reached the total of \$393,020,500. This was the heaviest fire waste with only two exceptions in the history of the country, being only exceeded in 1906 when the San Francisco conflagration contributed a vast sum, and in 1922 when the deflation following the closing of the war was charged with being the cause of many more hazard losses and extensive forest fires produced a total of \$410,889,350.

The early months of the year were particularly bad in fire losses and when late in the summer the burning ratio took a decided drop the hope was revived that the year might close no worse or possibly better than its predecessor. A flood of losses occurred in November and December which tended to destroy any chance of an underwriting profit for the fire insurance business as a whole. See INSURANCE.

Among the outstanding features of the fire loss record in 1926 was the very pronounced number of losses in which the actual fire damage was relatively small, but because of the nature of the property damaged the resultant loss ran to very considerable figures.

The monthly record for the year 1926, as compiled from the daily records of *The Journal of Commerce*, is given in the following table together with the monthly records of the two preceding years and it will be noted that the slump in the burning ratio which started last September was of short duration:

	1924	1925	1926
January ...	\$41,243,000	\$41,210,400	\$41,118,750
February ..	31,447,900	32,472,000	30,963,750
March .....	28,406,150	33,846,500	42,854,600
April .....	31,815,900	37,696,800	52,408,400
May .....	27,832,300	29,170,800	32,764,200
June .....	20,350,400	23,650,800	28,676,000
July .....	23,968,800	29,622,000	31,723,400
August .....	31,349,000	23,348,750	27,833,400
September ..	29,612,400	25,396,250	19,309,000
October .....	27,944,400	23,991,250	14,877,000
November ...	39,081,600	30,820,000	26,724,400
December ..	44,476,800	43,275,000	43,757,600
<b>Total ..</b>	<b>\$377,528,650</b>	<b>\$373,500,550</b>	<b>\$393,020,500</b>

The Committee on Statistics and Origin of Fires of the National Board of Fire Underwriters in its annual report for 1926 presented its usual table on fire losses in the United States over a period of years. Previous to 1916 the records of *The Journal of Commerce* were used. Subsequent years were based on returns to the Actuarial Bureau Committee adding 25 per cent for unreported and uninsured losses.

## FIRE LOSSES BY YEARS

1925.....	\$570,255,921	1899.....	\$158,597,880
1924.....	549,062,124	1898.....	180,593,905
1923.....	535,872,782	1897.....	116,354,575
1922.....	506,541,001	1896.....	118,787,420
1921.....	495,406,012	1895.....	142,110,233
1920.....	447,886,677	1894.....	140,006,484
1919.....	320,540,399	1893.....	167,544,370
1918.....	353,878,876	1892.....	151,516,098
1917.....	289,535,050	1891.....	148,764,967
1916.....	258,377,952	1890.....	108,993,792
1915.....	172,083,200	1889.....	123,046,833
1914.....	221,439,350	1888.....	110,885,665
1913.....	208,763,550	1887.....	120,283,055
1912.....	206,438,900	1886.....	104,924,750
1911.....	217,004,575	1885.....	102,818,796
1910.....	214,003,300	1884.....	110,008,611
1909.....	188,705,150	1883.....	100,149,228
1908.....	217,885,850	1882.....	84,505,024
1907.....	215,084,709	1881.....	81,280,900
1906.....	518,611,800	1880.....	74,643,400
1905.....	165,221,650	1879.....	77,703,700
1904.....	229,198,050	1878.....	64,815,900
1903.....	145,302,155	1877.....	68,265,800
1902.....	161,078,040	1876.....	64,630,600
1901.....	165,817,810	1875.....	78,102,285
1900.....	160,929,805		

Total, 51 years ..... \$10,468,158,909

The statistics of fire losses for 1925 prepared by the National Board of Fire Underwriters were studied carefully and analyzed in 1926, with the idea of instituting further methods of protection, as it was realized that most of the fires were strictly preventable. The revised total of \$559,428,858 indicated a burning rate of \$1.064 a minute, or a daily rate of burning of \$1.532,682. The chief source of fires was under the heading "matches—smoking," with an ascribed loss of \$30,303,815, followed by "defective chimneys and flues," with \$21,673,853. Next came "stoves, furnaces, boilers, and their pipes," \$20,416,785; "spontaneous combustion," \$17,391,398; "electricity," \$15,168,864; and "sparks on the roof," \$14,680,187. It can be apprehended from these items that the majority of fires could be prevented by adequate care and legal or other inspection, and that the people generally and the communities as organized had themselves to blame for the vast losses. Thus defective chimneys and flues can be regarded as a cause strictly preventable, while electricity, which is the safest form of light, heat, and power when properly installed and used, was responsible for a loss in excess of \$15,000,000. Rubbish and litter also contributed to many fires, as did various explosions. The unknown causes of fires in 1925 were responsible for damage totaling \$199,179,533, although a number of these fires were doubtless preventable and due to careless-

ness or improper supervision. Lightning in 1925 was charged with a total loss of \$13,196,918.

One of the leading menaces was the extensive use of shingle roofs, and this cause was largely responsible for a serious conflagration which took place at Newport, Ark., on Mar. 1, 1920, with a resulting loss of \$1,500,000. Here 270 dwellings, of which 264 had shingle roofs, were destroyed. A result of this conflagration was that the citizens of Newport passed an ordinance prohibiting in subsequent construction the use of wooden shingles. That there had been progress

## COMPARATIVE FIRE LOSSES

From Report of the Committee on Statistics and Origin of Fires, National Board of Fire Underwriters

	Population	Total loss	Per capita
1921			
Whole country .	107,833,284	* 495,406,012	4.59
370 cities .....	40,324,918	* 141,406,007	3.51
1922			
Whole country .	109,248,393	* 506,541,001	4.63
366 cities .....	33,821,476	* 120,964,112	3.57
1923			
Whole country .	110,663,502	* 535,372,782	4.84
372 cities ...	42,946,639	* 147,102,119	3.42
1924			
Whole country .	112,078,611	* 549,062,124	4.90
366 cities .....	43,375,796	* 146,222,749	3.37
1925			
Whole country .	115,378,094	* 570,255,921	4.94
370 cities ...	45,297,469	* 160,011,951	3.53

\* Estimated from Records of the Actuarial Bureau.  
 \* Actual figures reported.

made in this field was indicated by the report of the National Fire Underwriters' Association, in which it was indicated that by July 1, 1926, approximately 185 communities in the United States had adopted and were enforcing ordinances prohibiting the use of wooden shingles as a roof covering. Nevertheless, there remained many cities where this condition represented a very serious conflagration hazard and it was held accountable for a large portion of the fire loss.

During the year there was a growing tendency to enact ordinances fixing the cost of extinguishing fires upon persons disobeying fire prevention orders. During the year such an ordinance was passed in Kalamazoo, Mich., and the cities of Cleveland and Cincinnati, Ohio, has enforced such measures for several years with marked success.

A notable departure in fire protection was the putting into service during the year of a new Diesel electric fire boat, the *Port Houston*, which was built for the Harris County-Houston

## STATISTICS OF FIRES IN LARGER AMERICAN CITIES—1925, FROM REPORT OF THE COMMITTEE ON STATISTICS AND ORIGIN OF FIRES, NATIONAL BOARD OF FIRE UNDERWRITERS

City	Area sq. miles	Population	Number of alarms	Number of fires	Confined to building or place of origin	Total loss	Number of fires per 1,000 population	Loss per capita
New York .....	314.75	5,873,356	28,091	22,849	22,463	\$18,869,085	3.89	\$3.21
Chicago .....	204.98	3,000,000	26,818	18,796	18,458	11,252,084	6.26	3.75
Philadelphia .....	29.25	2,000,000	7,971	6,863	6,847	6,478,573	3.18	3.23
Detroit .....	139.20	1,242,000	9,968	8,181	...	3,982,087	6.59	3.16
Los Angeles .....	416.08	1,200,000	6,254	5,837	5,672	1,767,875	4.86	1.47
Cleveland .....	69.15	986,000	5,971	4,971	...	2,765,788	5.31	2.97
St. Louis .....	61.37	822,000	6,952	5,649	5,233	3,251,190	6.87	3.95
Baltimore .....	78.58	800,000	4,771	4,647	4,639	2,132,421	5.81	2.66
Boston .....	47.81	782,000	7,702	6,150	6,072	5,452,295	7.86	6.97
Pittsburgh .....	46.94	632,000	3,716	3,211	3,157	2,171,743	5.08	3.43
Milwaukee .....	32.66	565,000	3,516	2,551	2,529	1,607,764	4.51	2.84
San Francisco .....	38.87	558,000	5,971	4,826	...	...	8.65	...
Buffalo .....	42.00	538,000	2,336	1,986	...	3,117,001	3.59	5.79
Washington, D. C. .	70.00	498,000	3,021	2,764	...	865,081	5.55	1.74
New Orleans .....	196.25	415,000	1,951	1,951	1,848	3,152,125	4.70	7.59
Cincinnati .....	72.00	409,000	2,458	2,183	...	1,084,157	5.44	2.65
Seattle .....	57.92	379,000	3,115	562	538	1,389,537	1.48	3.66

**AMERICAN CITIES IN WHICH FIRE LOSSES EXCEEDED \$5 PER CAPITA IN 1925, FROM REPORT OF THE COMMITTEE ON STATISTICS AND ORIGIN OF FIRES, NATIONAL BOARD OF FIRE UNDERWRITERS**

<sup>a</sup> Council Bluffs, Iowa	\$29.67	<sup>b</sup> Hoboken, N. J.	7.36
Bay City, Mich.	26.58	<sup>b</sup> Gloucester, Mass.	7.30
East Liverpool, Ohio	22.31	<sup>b</sup> Williamsport, Pa.	7.07
<sup>a</sup> Bellingham, Wash.	18.54	<sup>c</sup> Boston, Mass.	6.97
<sup>a</sup> Lancaster, Pa.	17.51	Steubenville, Ohio	6.71
<sup>c</sup> Gloversville, N. Y.	17.30	<sup>a</sup> Nashua, N. H.	6.69
<sup>c</sup> Shreveport, La.	15.77	East St. Louis, Ill.	6.55
<sup>a</sup> Huntington, W. Va.	14.35	<sup>b</sup> Lexington, Ky.	6.46
<sup>a</sup> Leominster, Mass.	14.09	<sup>b</sup> Nashville, Tenn.	6.41
<sup>b</sup> Peabody, Mass.	13.19	<sup>a</sup> White Plains, N. Y.	6.37
<sup>a</sup> Oswego, N. Y.	12.02	Austin, Texas	6.27
<sup>b</sup> Ottumwa, Iowa	11.48	<sup>a</sup> Haverhill, Mass.	6.22
Asheville, N. C.	11.33	Madison, Wis.	6.21
<sup>b</sup> Glens Falls, N. Y.	10.91	<sup>b</sup> Olean, N. Y.	6.18
<sup>a</sup> Vicksburg, Miss.	10.90	<sup>c</sup> Springfield, Ill.	6.11
<sup>a</sup> Peoria, Ill.	10.82	<sup>b</sup> Portland, Me.	6.05
<sup>a</sup> Raleigh, N. C.	10.74	Gary, Ind.	5.96
Lockport, N. Y.	10.52	<sup>b</sup> Tampa, Fla.	5.93
<sup>b</sup> Fort Smith, Ark.	9.87	<sup>b</sup> Beverly, Mass.	5.87
<sup>a</sup> Shamokin, Pa.	9.35	<sup>b</sup> Buffalo, N. Y.	5.79
<sup>a</sup> Dallas, Texas	9.27	<sup>b</sup> Savannah, Ga.	5.79
<sup>a</sup> Hutchinson, Kans.	9.24	Portsmouth, Ohio	5.79
Muncie, Ind.	9.19	<sup>a</sup> Norwalk, Conn.	5.79
<sup>a</sup> Kansas City, Mo.	8.95	<sup>a</sup> Duluth, Minn.	5.71
Salem, Mass.	8.91	Bloomington, Ill.	5.68
<sup>a</sup> Paducah, Ky.	8.89	<sup>a</sup> South Bend, Ind.	5.58
Newport, R. I.	8.81	<sup>a</sup> Charlotte, N. C.	5.51
Cedar Rapids, Iowa	8.12	<sup>a</sup> Little Rock, Ark.	5.48
<sup>a</sup> Everett, Mass.	8.01	Lackawanna, N. Y.	5.45
Marion, Ohio	7.95	<sup>c</sup> Memphis, Tenn.	5.44
Johnstown, Pa.	7.89	Scranton, Pa.	5.36
<sup>b</sup> New London, Conn.	7.85	<sup>a</sup> Danville, Ill.	5.35
<sup>a</sup> Dunkirk, N. Y.	7.62	<sup>a</sup> Lawrence, Mass.	5.26
<sup>a</sup> New Orleans, La.	7.59	Mobile, Ala.	5.22
<sup>c</sup> Wilmington, N. C.	7.57	Newport, Ky.	5.07
Newark, N. J.	7.42	<sup>a</sup> Omaha, Neb.	5.01
<sup>c</sup> Alton, Ill.	7.38	<sup>a</sup> Wheeling, W. Va.	5.00

<sup>a</sup> These cities in this class in two of the five years.

<sup>b</sup> In this class three of the five years.

<sup>c</sup> In this class four of the five years.

<sup>d</sup> In this class five years.

Ship Canal Navigation District Commission. This boat was 125 feet 10 inches long overall, 27 feet beam, and had a draft of 8 feet 6 inches. Her main power equipment consisted of two main and one auxiliary generating units, the main sets being composed each of one 500 hp. six-cylinder Diesel engine operating at 420 revolutions per minute and direct-connected with a 350 kw., 500 volt generator and a 25 kw., 125 volt exciter. The auxiliary set was a 165 hp., 6-cylinder Diesel engine operating at 425 r.p.m. and direct-connected with a double generator having a total capacity of 100 kw. at 270 volts. For propulsion, two electric motors of 260 hp. each were used, while for pumping two 410 hp. electric motors were used, direct-connected with centrifugal pumps delivering their rated capacity at 175 revolutions per minute. The two pumps could supply 3500 gallons per minute at a pressure of 300 pounds per square inch, or a maximum of 7000 gallons per minute at 150 pounds per square inch. There were 39 nozzles distributed around the boat.

On Apr. 7, 1926, occurred the worst oil fire recorded, when three reservoirs of crude oil on the storage farm of the Union Oil Company in San Luis Obispo County, Calif., were simultaneously ignited and caused six reservoirs formed with concrete-lined earth banks over 20 feet deep, with roofs of tar paper on wooden posts on concrete piers, to burn. These reservoirs held from 750,000 to 1,000,000 barrels each, and, in addition, there were 19 tanks formed by steel shells with tops of wood covered with roofing felt. The fire burned for five days and destroyed approximately 5,000,000 barrels of oil valued at \$7,000,000. There were two men killed and incidental damage by no means slight was done

to the neighborhood. The day following the start of the San Luis Obispo fire, two reservoirs at the Union Oil Company's Stewart Station, near Brea, Calif., were struck by lightning and a fire very similar to that discussed above resulted, with a total loss set at approximately \$3,000,000.

One of the small but notable fires in 1926 was that of the Shakespeare Memorial Theatre at Stratford-on-Avon, on Mar. 6, 1926, which destroyed the auditorium, but by the efforts of the fire brigades the library and museum and valuable relics were saved. This fire was due to some unknown cause and completely gutted the building.

**FIRES, FOREST.** See FORESTRY.

**FISHES.** See ZOOLOGY.

**FISHKILL, N. Y., ANNIVERSARY OF STATE CONSTITUTIONAL CONVENTION.** SEE CELEBRATIONS.

**FISK UNIVERSITY.** A coeducational institution for negroes at Nashville, Tenn.; founded in 1866. It consists of a college, high school, junior high school, and a music department. The total enrollment of 638 for the autumn of 1926 included 295 men and 343 women, and was distributed as follows: college, 485; high school, 72; junior high school, 28; music department, 157. The faculty numbered 45 and there were 18 administrative officers. The library contained approximately 12,000 volumes. The productive funds for 1925-26 amounted to \$289,752.30 and the income to \$127,604.42. On Dec. 7, 1926, Thomas Elsa Jones, M.A., Ph.D., was inaugurated as president.

**FITZGERALD, DESMOND.** American civil engineer, died at Brookline, Mass., September 22. He was born in Nassau, New Providence, Bahama

Islands, May 20, 1846, and studied at the Providence, R. I. High School, and Phillips Academy, Andover, Mass., becoming a student in the engineering office of Cushman & DeWitt of Providence, R. I. In 1867 he became an axeman on the surveying staff of the Indianapolis & Vincennes Railroad, and was promoted through successive grades until he was a transitman earning \$75 a month. In 1870 he was appointed chief engineer of the Cairo & Vincennes Railway, later becoming division engineer of the Rockford, Rock Island & St. Louis Railroad. A brief period spent on Federal river improvement work was followed by his service as chief engineer on the Boston & Albany Railroad, 1871-73. In 1872 Fitzgerald became connected with the supply end of the Boston water-works and in 1898 he was engineer of the Sudbury Department of the Metropolitan system, serving until 1902. While engaged with the Boston water supply system Fitzgerald designed and constructed a number of important dams and reservoirs, and developed systematic efforts to prevent water pollution, organizing this work both on the legal and physical sides. He was also interested in studies of evaporation and the biology of water supplies. He developed schemes for the diversion of sewage from the Boston water gathering grounds. Fitzgerald was chairman of the Massachusetts Topographical Survey Commission, and of the Brookline Park Commission, and was a member of the Metropolitan Improvement Commission of Massachusetts. He was consulting engineer of water supply and sewage systems for Manila, P. I., 1904. He was president of the American Society of Civil Engineers in 1899, and was a fellow of the American Academy of Arts and Sciences. In addition to his engineering work, he made extensive collections of paintings by American and European artists, including works of Claude Monet and Dodge MacKnight, and of Korean and Chinese pottery. These works of art were made accessible to the public in the gallery connected with his home which he built in 1913.

**FIUME**, fyōō'me. A small state consisting of a single city, whose independence was acknowledged by the Treaty of Rapallo between Italy and Jugo-Slavia, Nov. 12, 1920. After a brief and tempestuous career it was turned over to Italy by a subsequent treaty with Jugo-Slavia, Jan. 27, 1924. Area, about eight square miles; population at the census of 1921, 84,686.

**FIXED NITROGEN PRODUCTS.** See FERTILIZERS.

**FLAX.** The International Institute of Agriculture, Rome, estimated the 1926 flaxseed production of reporting countries at 7.7 per cent above the average but as only 82.5 per cent of the crop of 1925, which was the largest ever recorded. The production of the more important producing countries for which data were on hand was estimated as follows: Lithuania 1,837,700 bushels, Canada 6,715,000 bushels and India 16,040,000 bushels. The flaxseed crop of the United States, as estimated by the Department of Agriculture, was 19,459,000 bushels produced on 2,897,000 acres or at the rate of 6.7 bushels per acre as against 22,424,000 bushels grown on 3,078,000 acres and an average yield of 7.3 bushels per acre in 1925. In spite of the smaller production the average farm price Dec. 1, 1926, was only \$1.941 per bushel while the corresponding price the year before was \$2.265 per bushel. The total crop value on this basis for the two years

was \$37,775,000 and \$50,738,000 respectively. The production of the four leading States of the ten States reporting yields was as follows: Minnesota 8,554,000 bushels, North Dakota 6,736,000 bushels, South Dakota 2,755,000 bushels and Montana 804,000 bushels. The area devoted to the crop in 1926 in these States was 910,000, 1,271,000, 475,000 and 171,000 acres respectively.

The total quantity of flaxseed used in the production of linseed oil in the United States is approximately 35,000,000 to 40,000,000 bushels annually and to meet this domestic requirement about 15,000,000 to 20,000,000 bushels are imported each year, mostly from Argentina and Canada. The United States, the heaviest single consumer of flaxseed, imports as much flaxseed and linseed oil as it produces. The import duty on flaxseed is 40 cents per bushel with a drawback of about 10 cents per bushel for the re-export of cake. The monthly average price of flaxseed during the crop year was from 22 to 40 cents per bushel higher at Minneapolis than at Winnipeg. The principal flaxseed exporting countries are Argentina, British India and Canada and the principal importing countries the United States, the United Kingdom, the Netherlands, Germany and France. The lower prices for flaxseed prevailing during the past year are attributed to a large extent to the record crop of Argentina for 1925-26 which amounted to over 75,000,000 bushels, of which over 47,000,000 bushels was available for export and carry-over.

Estimates of flax fibre production for different countries were reported by the International Institute of Agriculture, Rome, as follows: Lithuania 92,922,900 pounds, Latvia 52,605,100 pounds, Czecho-Slovakia 27,976,300 pounds, Estonia 23,648,400 pounds, Netherlands 14,991,500 pounds and Austria 6,327,300 pounds. The Soviet Republics in 1925 produced 890,542,000 pounds, Poland 131,913,600 pounds, Belgium 51,353,100 pounds, France 39,205,800 pounds, the Serb-Croat-Slovene State 22,518,300 pounds and Ireland 13,104,000 pounds. A preliminary estimate placed the flax fibre imports of the United States at 7000 tons representing a value of more than \$3,000,000. The propagation of pure-line varieties of fibre flax was reported as receiving attention in the United States, Japan and several European countries and successful experiments in growing fibre flax were reported from Tamaulipas, Mexico.

**FLOOD PROTECTION.** During 1926 the Los Angeles County flood control project was well under way and work was done on several of the dams essential to the plan. Progress was made on the Pacoima dam, an arched concrete structure 375 feet in height when finished, while the Santa Anita dam, the Saw Pit dam, and the Puddingstone earth-fill dam were under construction. Los Angeles County in 1924 had voted a bond issue of \$35,300,000, of which amount \$25,000,000 was for a dam of great size on the San Gabriel River. During the year 1926 a controversy was active as regards the San Gabriel River dam, it being alleged that the structure was improperly located and interfered with needed extensions of Pasadena's water supply. The Los Angeles County Board of Supervisors accordingly appointed a committee of three engineers to consider the programme adopted for the county flood control district with respect to the San Gabriel River.

At the election, November 2, a proposed bond issue of \$26,000,000 for further work by the

Los Angeles, Calif., County Flood Control District was defeated, being opposed by the Los Angeles city committee of the California Taxpayers' Association, the Los Angeles chapter of the American Association of Engineers, and other organizations. This issue was intended to pay for supplementing the work begun two years previously, when a bond issue of \$35,300,000 was approved.

**FLOODS IN THE CENTRAL STATES.** In Illinois, Iowa, and Kansas, heavy rainfalls in the late summer and early autumn were responsible for floods which caused considerable damage. In the Illinois River the highest stage reached was only about three feet below that of 1922, but the levees held and, with the Mississippi low, there was a free run-off for flood waters. At some points, emergency sandbag work was required, and there was inundation due to flood waters from the hills and seepage, so that enormous damage to crops was done and several bridges were washed out. At Jacksonville, Ill., the dam of the water-supply reservoir was carried away. In the case of some of the tributary streams, flood heights were greater than in the Illinois. In Iowa and Kansas, also, considerable damage was done.

At the fourteenth meeting of the National Drainage Congress, held at Oklahoma City, January 18-20, a number of important papers and discussions had as their subject flood control, particularly in Western and Southwestern states. Flood insurance, while expensive, was urged as necessary in many localities, particularly those in which danger of cloudburst rainfall was imminent. As a result, a number of cities in the United States either had under way or were considering flood-control works, and the Federal Government, in certain cases, was coöperating with the local authorities in the development of various projects—at least by making preliminary surveys and studying the essential facts in connection with the rivers and rainfalls.

The State flood control commissioners of Texas, Oklahoma, and New Mexico met in conference in November at Amarillo, Tex., to discuss joint action in the flood control of the Canadian River, which is a most important unit in the Arkansas River system, having a length of 1000 miles and a drainage area of 60,000 square miles. It was believed that the construction of three dams would give storage capacity for 500,000 acre-feet each and for hydro-electric development, as well as rendering large areas of fertile land available for irrigation. Such works would not only control the river and avoid the constant losses of railway and highway bridges in times of flood, but would develop important resources.

**PUEBLO, COLORADO.** During the year work was in active progress on the north levee of the relocation of the Arkansas River through the City of Pueblo. The cement lining was placed on this channel, which was three miles long and affords a depth of 30 feet to carry the stream water.

**LENINGRAD, RUSSIA, FLOOD PROTECTION.** During the year announcement was made of three general projects which had been proposed for sea flood control at Leningrad, Russia, to protect parts of the city from periodic inundations. These projects were prepared by the interdepartment commission of city and state offices and aimed to deal with a danger that had been apparent

for nearly two centuries, and for which various schemes had been suggested; but few steps had been taken so far as the actual construction stage. Even in the days of Peter the Great it was proposed to dig a net of channels across the city area in order to facilitate the flow of water from the River Neva into the bay, as this was thought to be a contributing cause of the floods, and some of the channels built during the reign of Catherine II are still existent. In 1824, after a flood where the water rose to a height of 13 feet 8 inches, plans were requested from foreign engineers, but they were based on the fallacious assumption that the floods in the estuary of the Neva were due to river discharge. A disastrous flood occurred on September 23, 1924, when approximately the entire City of Leningrad, some 50 square miles in area and with a population of over 1,000,000, was suddenly flooded to an average depth of 5 to 7 feet. As this occurred in the daytime there was approximately no loss of life, but it led to the formation of a commission composed of meteorologists, hydrologists and civil engineers which found that the cause of the floods was a sea wave. Accordingly, three general projects were formulated based on this assumption and there was put under way the study of the meteorological conditions leading to the general rise of the Baltic Sea as reflected in the Finnish Gulf and the suddenly increased height of wave coming from the Baltic which became a serious source of danger by the time it reached Leningrad.

The commission proposed the construction of dams, the nature and location of which varied in the different projects. In the first scheme two dams were to be built between the shores of Neva Bay and Kotlin Island, the northern dam being from 5 to 15 feet in height and  $7\frac{1}{2}$  miles long, while the southern dam would range in height from 3 to 6 feet and be  $3\frac{1}{2}$  miles in length. There would be spillways in both dams protected by gates to permit the passage of Neva River waters into the sea. In the southern dam there would be a navigable pass either protected by a gate or else constructed as a lock. This arrangement would be adequate to take care of the greatest flow of river water which had ever been recorded, for the greatest rise on record as well as the annual period of flood water does not seriously affect the city.

Another project would involve but one dam across the Bay, situated halfway between Kotlin Island and the city, which would range in height from 5 to 10 feet and be 8 miles in length, being equipped with spillways and either a lock or a gate to facilitate the passage of shipping. This would make an area of approximately 50 square miles of bay behind the dam. The third plan would require the building of high dams running along the shore lines of the islands, and they too would have spillway outlets and openings for navigation, the total length of the dams being greater, but conditions for their construction were more favorable, as they would not be exposed to the violence of the sea wave. In the second and third schemes a necessary element would be a river dam upstream. The interdepartment commission during the year was studying the question further, and surveys and plan drawings were being made to decide on the best and cheapest plans, from an engineering standpoint.

**PARIS DISTRICT.** To obviate the menace of



dangerous floods that threatened Paris, a scheme was proposed during the year by E. Maynard and published in *Le Génie Civil*. It was proposed to intercept the water of the Marne River at Neuilly and construct a regulating dam, so that the flood waters could be diverted first through a section of gravity canal and then raised by electric centrifugal pumps to the top of a small divide, whence they would be carried into the Seine at La Briche by means of pipe and open channel. Of course, this would require electric power to be available during the flood season, and it was stated that the cost would be less than the damage due to the flooding of Paris. The cost of the entire work was estimated at 285,000,000 francs, plus 7,500,000 francs for the cost of electric power necessary to run the pumps over a period of 25 days, which was assumed as the average time of flood danger. In the winter of 1925 a rainfall of 773 millimeters was recorded, as compared with a normal rainfall of about 515 mm., and it was estimated that the diversion works plan would carry flood waters to the amount of 21,000,000 cubic meters in 24 hours, an amount sufficient to keep the Seine in check.

MEXICO. A serious flood occurred at León, State of Guanajuato, in the early summer. This settlement is located on a dry arroyo, where the channel had been allowed to fill with dumping from refuse as well as with the deposition from stream wash. Banks had been constructed along this watercourse through the town, as there had been former floods, but this slight protection had not been maintained in good repair. In addition, there were a number of small farmers' reservoirs with earth dikes and no spillways, so that after a three days' rainfall of moderate rate a heavy downpour in the night caused the stream to overflow and also flooded the reservoirs mentioned, which broke when the increased flow of water came. There has been a growing population in the town and foundations of buildings were in some cases below the river bed. The lower areas of the district were inundated to a depth of two and three meters, and the total loss of life was estimated at 100 or more.

**FLORIDA.** POPULATION. A State census was taken in 1925. The result showed a total population of 1,263,549, compared with 968,470 by the Fourteenth United States census of 1920, an increase of 295,079 in the five-year period. The estimated population of the State on July 1, 1926, was 1,317,000. The capital is Tallahassee.

AGRICULTURE. The following table gives the acreage, production and value of the principal crops in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	551,000	7,714,000	\$7,097,000
	1925	580,000	8,700,000	8,700,000
Potatoes	1926	24,000	2,832,000	7,080,000
	1925	23,000	2,852,000	7,415,000
Sweet potatoes	1926	28,000	2,800,000	3,500,000
	1925	29,000	2,465,000	3,451,000
Cotton	1926	109,000	33,000 <sup>a</sup>	1,683,000
	1925	101,000	38,000 <sup>a</sup>	3,589,000
Tobacco	1926	5,500	5,076,000 <sup>b</sup>	1,762,000
	1925	7,000	5,824,000 <sup>b</sup>	1,805,000
Peanuts	1926	27,000	14,860,000 <sup>b</sup>	742,000
	1925	41,000	24,600,000 <sup>b</sup>	787,000
Hay	1926	74,000	55,000 <sup>c</sup>	1,190,000
	1925	82,000	57,000 <sup>c</sup>	1,296,000

<sup>a</sup> bales, <sup>b</sup> pounds, <sup>c</sup> tons.

MINERAL PRODUCTION. The production of phosphate rock, the chief mineral industry of the

State, of which Florida is the chief U. S. producer, was well sustained in 1925 as to quantity, but the price obtained was low. In 1924 were produced 2,432,581 long tons; in 1923, 2,547,653 long tons. The product in 1924 was valued at \$8,017,476; in 1923, at \$9,059,427. Stone was produced to the quantity in 1924 of 2,973,360 short tons, and in 1923 of 1,494,080 short tons; and to the value of \$2,942,778 in 1924, and \$1,425,434 in 1923. Production of fuller's earth increased to 64,731 short tons in 1924, from 60,996 short tons in 1923; and to a value of \$1,037,642 in 1924, from \$973,121 in 1923. Clay and clay products, sand and gravel, peat and zircon were produced in commercial quantities. The total value of the State's mineral production was \$13,101,223 in 1924; and in 1923, \$12,557,882.

FINANCE. As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$7,272,253, or \$5.79 per capita, as against \$5.55 in 1924 and \$3.83 in 1917. Their total included \$566,744 for education, apportioned to minor State divisions. Expenses totaling \$569,195 for interest on debt and \$8,163,319 for permanent improvements, added to the payments for maintenance and operation of State departments made the total of State payments \$16,004,767. For highways was expended the sum of \$7,055,172, of which \$602,485 was for maintenance and \$6,452,687 for construction.

Revenue receipts of the State were \$17,155,408, or \$13.65 per capita. They exceeded by \$9,313,960 the total payments except those for permanent improvements, and furthermore, exceeded by \$1,150,641 the total with these included. Property and special taxes formed 35.2 per cent of the revenue in 1925, as against 41.8 per cent in 1924 and 66 per cent in 1917. Their per capita rate was \$4.81 in 1925, \$4.89 in 1924 and \$2.58 in 1917. Earnings of the general departments and compensation for officials' services furnished 6.2 per cent of the 1925 revenue; business and non-business licenses, 39.8 per cent. License receipts were derived chiefly through taxes on incorporated companies and the sales of gasoline and from licenses for motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$274,042, or 22 cents per capita, as against 26 cents in 1924 and 66 cents in 1917. The assessed valuation of property subject to State tax was \$475,197,304. The State tax levy was \$5,122,303, or \$4.08 per capita.

TRANSPORTATION. The total mileage of railroad line in operation at the end of 1925 was 5451.51. In 1926 there were constructed 233 miles of new first track, 222 miles of new second track, and one mile of third track; a total of 456 miles of track. In respect to construction of new first track in the year the State ranked second, Texas standing first, and in respect to total of all new trackage, Florida ranked first among the States. The chief additions were the completion of the Seaboard All-Florida from West Palm Beach to Miami, 70 miles, and a line from Ft. Ogden to Naples, 68 miles in length, both subsidiary to the Seaboard Air Line; and lines aggregating 94 miles, and forming parts of the Atlantic Coast Line, in the western portion of the State. No important abandonment of railroad line occurred.

EDUCATION. A constitutional amendment sub-

mitted by the State Legislature of 1925 and having an important bearing on educational activity in the less wealthy counties was ratified by popular vote at the general election on November 2. Under this amendment the Legislature obtained the power to make appropriations for the purpose of providing longer school terms in counties where insufficient funds for this purpose were available. The school population of the State in 1925, the latest year for which the figure was available, numbered 391,299. In 1926, the total enrollment was 343,028. Of this number 307,924 were enrolled in common schools; in high schools, 35,064. Expenditure for public education in the State in 1926 amounted to \$31,054,264. The average salary of teachers was \$118.28.

**CHARITIES AND CORRECTIONS.** Among the charitable and correctional institutions of the State in 1926 the chief were the following: the State Hospital, Prison Farm, Industrial School for Boys, Industrial School for Girls, Farm Colony for the Feeble Minded and Epileptic, and School for the Deaf and Blind.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Sen. Duncan U. Fletcher, Democratic candidate for the United States Senate, was reelected over two Republican opponents. For Congress from the first district, Herbert J. Drane was reelected. From the second district, Robert A. Green was reelected. In the third district Thomas A. Yon defeated J. H. Smithwick. From the fourth district W. J. Sears was reelected. The Supreme Court, for 1927, was to be composed as follows: Chief Justice, W. H. Ellis; Associate Justices, James B. Whitfield, Rivers Buford, Glenn Terrell, Armstead Brown and L. W. Strum.

In the middle and latter part of July financial difficulty affected a number of small banks in Florida, dependent on financial connection with a larger institution in Atlanta, which was forced to suspend when they had ceased payment. The Seminole Indians of Florida, the only Indian tribe that has not received Federal aid, addressed to President Coolidge in November through their chief, Tony Tommy, a request that the truce made with Osceola in 1827 be ended and that they be allowed to swear allegiance and become citizens of the United States. The total number of the Seminoles was about 300. The State gave notice in the U. S. Supreme Court that it would contest unequal remittances to States under the new inheritance tax law and filed a brief against the Federal law August 4.

The most serious occurrence of the year in Florida was the hurricane of September 18. A West Indian storm of exceptional violence entered the territory of the State by the east coast in the latitude of Dade, Brevard and Palm Beach Counties, at the south of the peninsula. It took a northwesterly direction across the State, passed out into the Gulf of Mexico, and eventually reached the Pensacola area in west Florida. It diminished in intensity as it progressed, but was still sufficiently severe to do material damage in the Pensacola area and in Alabama on the 19th. Miami was the chief sufferer in point of property destroyed, because the city stood near the centre of the hurricane path and because of the value of the real estate improvements at that point. Small vessels were carried ashore by the force of the wind and by the rise of the sea level occasioned by the inward drift of water propelled by the storm, and were

left stranded within the city. Houses, particularly the buildings more lightly constructed, were partly or wholly blown down. Window glass was generally broken from its place. Trees, shrubbery and the like in parks and streets were thrown down. The water invaded part of the city and strewed it with wreckage.

Similar damage was done at Fort Lauderdale and other neighboring places along the coast. Moore Haven and Fort Myers suffered severely. The loss of life, estimated at 370 persons, and cases of injury, much more numerous, were distributed over the storm area, and occurred largely outside of Miami. It was afterward reported that the area most severely stricken comprised about 500 square miles. Citrus fruit growers inland incurred a heavy loss of crops. Damage to buildings was in part covered by insurance. Measures of relief were taken by the American Red Cross, which issued an appeal for \$5,000,000 for this purpose. Before the completion of the amount Florida authorities announced that the State expected largely to be able to care for its own needs. Estimates of the property damage varied, that of one well informed resident of Miami being \$25,000,000.

**OFFICERS.** Governor, John W. Martin; Secretary of State, H. Clay Crawford; Treasurer, J. C. Luning; Attorney-General, J. B. Johnson; Comptroller, Ernest Amos; Superintendent of Public Instruction, W. S. Cawthon; Commissioner of Agriculture, Nathan Mayo.

**JUDICIARY.** Supreme Court: W. H. Ellis, Chief Justice; Associate Justices, James B. Whitfield, Armstead Brown, Glenn Terrell, Rivers H. Buford, L. W. Strum.

**FLORIDA, UNIVERSITY OF.** A State institution of higher education at Gainesville, Fla.; founded in 1905. In the autumn of 1926 there was an enrollment of 1871, distributed as follows: Agriculture, 113; arts and sciences, 661; engineering, 250; architecture, 36; law, 249; pharmacy, 48; teachers, 154; business administration, 340; graduate students, 28. There were 878 enrolled for the summer session. The faculty numbered 118, not including student assistants. Of this number seven were additions. In 1926 the financial condition was as follows: Maintenance fund, \$501,666; endowment, \$18,000; value of equipment, \$3,560,000. The library contained 45,000 volumes. New buildings were in process of construction for chemistry and horticulture, and an addition to the engineering building, the total cost to be about \$500,000. A Professorship of Southern History and Americanization was established during the year. The School of Business Administration and the School of Architecture, previously departments of other schools, were established as separate colleges. A number of scholarships and student loan funds were given to the University during the year, among them one of \$10,000 from the late Governor Broward. President, Albert A. Murphree, LL.D.

**FLYING, FLYING BOATS, ETC.** See **AERONAUTICS**.

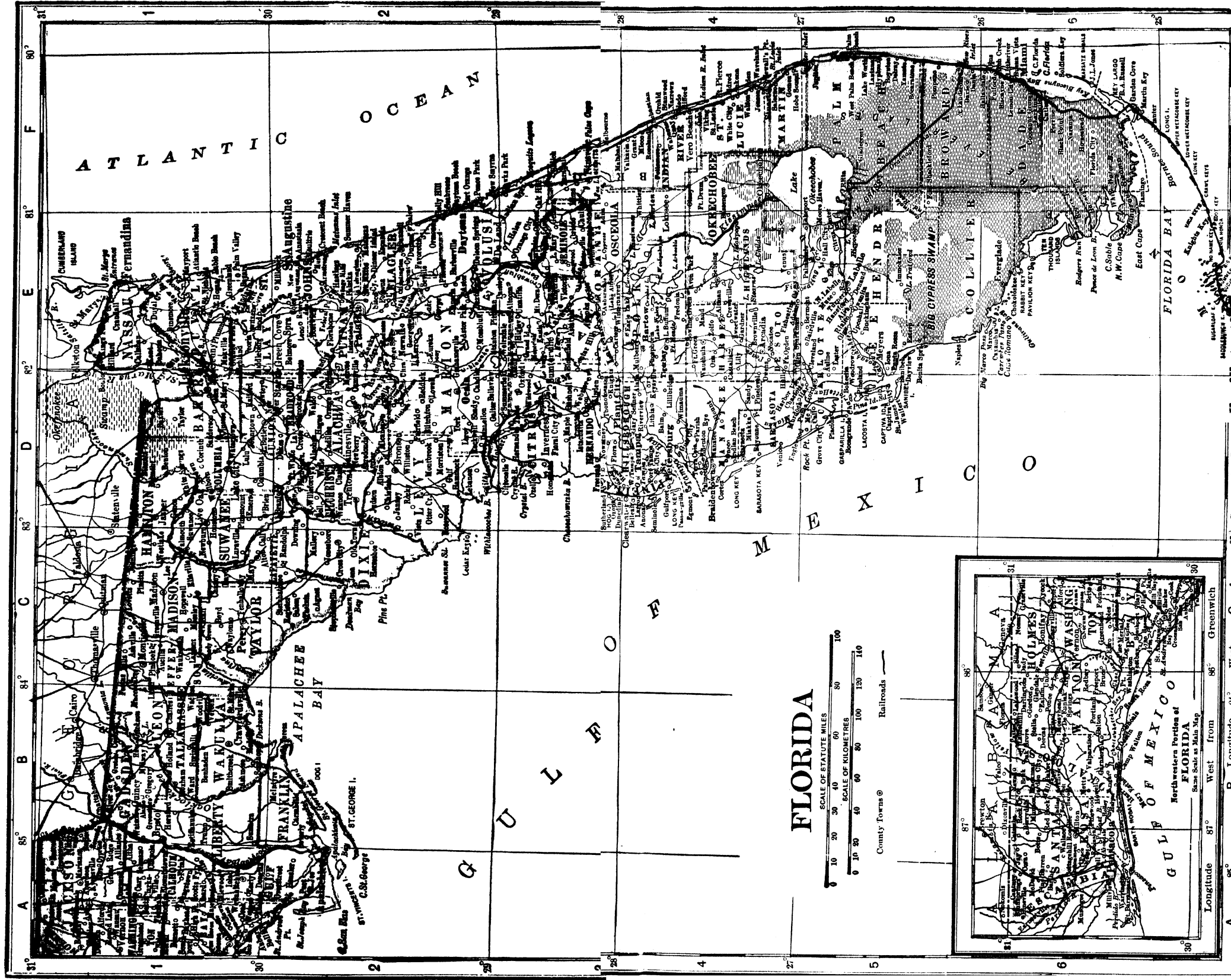
**FOG SIGNALS.** See **LIGHTHOUSES**.

**FOLKLORE.** See **PHILOLOGY, MODERN**.

**FOOD.** See **AGRICULTURE**.

**FOOD AND NUTRITION.** **FOOD PRICES, United States.** The index number for wholesale prices of foods reported by the Bureau of Labor Statistics, U. S. Department of Labor (*Monthly Labor Review*, vol. 23, p. 212), was 152 for September and for October, 1926, as compared









with 157.6 for October, 1925, and 100 for 1913. *Bradstreet's* Food Index Number based on the wholesale prices per pound of 31 articles used for food was \$3.48 for the week ended December 23 as compared with \$3.54 for the previous week and \$3.57 for the week ended Dec. 24, 1925. The Bureau of Labor Statistics logarithmic curve of retail food prices based on 43 articles of food was slightly lower throughout the year than the peak of the 1925 curve but continued to be higher than at any time since the sharp decline in 1920. The retail prices on October 15 of 15 of the 43 foods listed in these calculations showed an increase of 1 per cent or more over the figures of Oct. 15, 1925, 22 a decrease of 1 per cent or more, and 5 practically no change. The average cost of all the listed foods was 1 per cent lower on Oct. 15, 1926, than on Oct. 15, 1925.

*Other Countries.* The general trend of retail prices throughout the world may be seen from the accompanying table compiled from data reported in the *Federal Reserve Bulletin* of December, 1926. The index numbers, which have been constructed by the various foreign statistical offices, are based on the prices of a number of articles of food weighted according to different standards, but all unless otherwise noted referable to the original pre-war basis of 100. Increases are shown in six countries, decreases in seven, and practically no change in four.

INDEX NUMBERS OF RETAIL FOOD PRICES IN PRINCIPAL COUNTRIES  
(Pre-war = 100)

Year and month	Austria (Vienna <sup>a</sup> )	Belgium <sup>b</sup>	European countries		France (Paris)	Germany
			Bulgaria	England <sup>c</sup>		
1925, Oct. ....		144	2,698	172	483	151
1926, Oct. ....	117	177	2,641	163	624	145
Year and month	Greece	Italy (Milan)	Netherlands	Norway	Russia	Switzerland
1925, Oct. ....	1,597	646	149	228	215	168
1926, Oct. ....	1,933	652	148	191	230	160
Year and month	United States (51 cities)	Canada	Other countries		New Zealand	South Africa
			Australia	India (Bombay)		
1925, Oct. ....	158	147	157	148	155	119
1926, Oct. ....	157	147	153	153	148	120

<sup>a</sup> New Index on gold basis. July, 1914 = 100.

<sup>b</sup> 1921 = 100.

<sup>c</sup> July.

<sup>d</sup> September.

<sup>e</sup> First of the month figures.

**FOOD RESEARCH.** The work of the Food Research Institute at Stanford University was concerned chiefly, as heretofore, with the economics of the production, distribution, and consumption of wheat. Factors considered responsible for the steady decline in the per capita consumption of bread (from 5.41 bushels of wheat per capita in 1899 to 4.23 in 1923) were a tendency to replace the cereals with sugar, a decrease in total food requirements per capita, a tendency to a more diversified diet, and a shift to more expensive foods generally, the last resulting chiefly from the increased prosperity of the laboring classes since the war. The third annual report of the Chief of the Bureau of Home Economics, U. S. Department of Agriculture, showed considerable progress in the research work of that bureau. Various publications were issued by the bureau during the year, including "Canning Fruits and Vegetables at Home," by Louise Stanley (*Farmers' Bulletin 1471*); "A Guide to Good Meals for the Junior Home Maker," by R. Van Deman and C. L. Hunt (*Miscellaneous Circular 49*); "Proximate Composition of Beef," by C. Chatfield (*Department Circular 589*); and "Vitamins A,

B, and C," by S. L. Smith (Mimeographed Circular).

A conference to discuss ways and means of obtaining the facts needed to give an adequate picture of American food habits was held at the Bureau on April 17 and participated in by about 30 scientists representing organizations that have made studies of American food habits. At the close of the conference resolutions were adopted recommending that a comprehensive study be undertaken of family food consumption in the United States with reference to quality, quantity, racial and geographical variations, and cost in proportion to family income. Research in food and nutrition at the State agricultural experiment stations under the Purnell Act was in progress at 31 of the 50 stations. A national co-operative project, The Vitamin Content of Food in Relation to Human Nutrition, was receiving attention in 24 studies at 17 stations. Another of the national projects, Factors Which Influence the Quality and Palatability of Meat, was receiving the help of the home economics departments in the cooking of the meat at five of the stations. Food consumption and expenditure studies were being conducted at 10 of the stations. A wide range of subjects was included in the remaining projects.

**NUTRITION INVESTIGATIONS.** *Nutrition and Growth.* Special nutrition classes and supple-

mentary lunches in the schools had become an established custom throughout the country and demonstrated the beneficial effects upon undernourished children of such supplementary feeding. Kaiser, Norton, and Walker (*Amer. Jour. Diseases Children*, vol. 31, p. 386) from a study of the weight records of a large number of school children six months and a year after the close of nutrition classes came to the conclusion that the supplementary lunches should be given to the whole school instead of to the underweight children only, and that to secure permanent results in school nutrition work the coöperation of the parents in regulating the child's habits and continuing the nutrition programme is essential.

An extensive investigation of undernourishment in children with a view to determining the causes for occasional failures to gain in nutrition classes, was undertaken at the Nelson Morris Memorial Institute for Medical Research of the Michael Reese Hospital, Chicago. The first report on this investigation by Wang et al. (*Amer. Jour. Diseases Children*, vol. 32, p. 63) dealt with the gains in weight of 33 underweight

children (from Jewish, Polish, Irish, and Italian families) during periods of from two weeks to five months when the children were at the hospital under constant supervision and receiving proper diets. No child remaining longer than two weeks failed to gain and 11 reached normal and all but eight within 10 per cent of normal weight before discharge from the hospital. Racial emotional characteristics and poor home conditions leading to bad food habits were considered important factors in the previous failures to gain. Slow eating, resulting in inability to finish a meal in the usual time, apathy toward normal play and over-excitement when drawn into it, and poor dental hygiene were noted in individual cases.

**Milk for Infant Feeding.** Centres for the collection and distribution of breast milk had been in operation in the larger cities for a sufficiently long time to furnish convincing proof of their value, as well as to be of help to newer centres in the way of suggestions as to operation. The methods followed by the Children's Welfare Federation of New York were discussed by Chapin (*Jour. Amer. Med. Assoc.*, vol. 87, p. 1364). In Boston the problem of distribution of the milk had been simplified by drying what has to be sent to a distance. In reports by Emerson (*Amer. Jour. Diseases Children*, vol. 30, p. 789) and Emerson and Smith (*Amer. Jour. Diseases Children*, vol. 31, p. 1) dried breast milk was shown to be a satisfactory food for babies, including the undernourished and premature, and was recommended as possessing the advantage over the fresh milk of being available at a distance for infants too sick to bring to the hospital and too far away for the fresh milk to be transported to them. In this connection it is interesting to note that according to Brook (*Amer. Jour. Trop. Med.*, vol. 6, p. 403) the gradual replacement of condensed milk by powdered milk (Klim) for infant feeding in the Canal Zone had been accompanied by a decrease of over 50 per cent in the incidence of malnutrition and non-specific diarrhea among the infants under two years of age admitted to the Ancon Hospital.

The possibility of increasing the antirachitic properties of milk by irradiating the animals producing the milk was investigated by Hart, Steenbock, et al. at the Wisconsin Agricultural Experiment Station and by Gowen, Murray, and Gooch at the Maine station (*Science*, vol. 63, p. 97). The work at the Wisconsin station indicated that goat's milk could be made richer in antirachitic properties by systematic irradiation of the goat, but that similar irradiation of the cow did not increase the antirachitic properties of its milk. Gowen and his co-workers, however, reported that the milk of irradiated cows was also richer in antirachitic properties than the milk from the same cows not irradiated. Hess, Weinstock, and Sherman (*Proc. Soc. Expt. Biol. and Med.*, vol. 23, p. 636) demonstrated the possibility of increasing the antirachitic properties of human milk by irradiation of the mother, and in commenting upon their results stated "it clearly indicates the value of ultra-violet irradiation of the mother during lactation as a preventive of rickets in the baby. Probably during the winter months when the infant is most in need of protection from rickets the intensity of sunlight is insufficient to produce this property in the milk." That careful selection of the diet during pregnancy and lactation to insure an abundance

of antirachitic vitamin and calcium may do much to increase the resistance of breast-fed babies to rickets has been demonstrated by Grant and Goettach in rat-feeding experiments (*Amer. Jour. Hyg.*, vol. 6, pp. 211, 228). It has been suggested that a simple means of increasing the antirachitic properties of cow's milk for infant feeding would be to irradiate the milk itself, but experiments reported by Titus et al. at the Kansas Experiment Station (*Indus. and Engin. Chem.*, vol. 18, p. 843) have indicated that such treatment is likely to decrease the value of the milk as a source of vitamin A.

**The Dietary Control of Disease. Pernicious Anemia.** A diet composed especially of foods rich in complete protein and iron, particularly liver, and containing an abundance of fruits and fresh vegetables and very little fat was reported by Minot and Murphy (*Jour. Amer. Med. Assoc.*, vol. 87, p. 470) to have given promising results in the treatment of pernicious anemia. In the same number of the *Journal* (p. 476) Koessler, Maury, and Loughlin advanced the theory, based upon experimental work with rats, that pernicious and other severe anemias are the result of chronic vitamin deficiency, particularly vitamin A. A recommended system of dietary management based upon this theory included cod-liver oil, yeast tablets, butter, milk, cream, egg yolks or whole eggs, an abundance of fruits and vegetables, whole wheat bread made with milk, and, in place of muscle meat, liver, kidney, sweetbreads, or brains. See ANÆMIA, PERNICIOUS.

**Diabetes.** To simplify the dietary management of juvenile diabetes, Boyd (*Jour. Amer. Med. Assoc.*, vol. 87, p. 1020) prepared a series of unit diet formulas designed to furnish the theoretical energy requirement of an active child with protein, carbohydrate, and fat in the ratio of 7:9:21, and a sufficiency of mineral salts and vitamins. Sansum, Blatherwick, and Bodwen (*Jour. Amer. Med. Assoc.*, vol. 86, p. 178) developed a dietary system for diabetes involving more liberal amounts of carbohydrates than is usually the custom. White bread, potatoes, milk, and exceptionally large servings of fruit are among the foods included in the diet formulas, which furnish adequate protein and two grams or more of carbohydrate to each gram of fat. To keep the patient sugar-free more insulin is required but prolonged use of the diets recommended is said to bring about a gradual decrease in the insulin requirement. This evidence of partial recovery is attributed to freedom from acidosis. Other arguments in favor of this change in dietary treatment are that the patients are restored to a more nearly normal state of physical and mental activity and lose their craving for forbidden foods, and that the diets are cheaper and more palatable.

**Goitre.** The distribution of endemic goitre in the United States as shown by thyroid surveys in 40 States was summarized by Oleson (*U. S. Pub. Health Rpts.*, vol. 41, p. 2691). The reports disclosed foci of endemic goitre in localities not previously regarded as being located in goitrous territory, but in the opinion of Oleson the incidence of goitre was not so universal as to require wholesale prophylaxis in all States. The success that has attended the prophylactic treatment by iodized salt or other sources of iodine of children in goitrous localities led Marine to state in a paper on Simple Goitre and Its Prevention (*Jour. Amer. Med. Assoc.*, vol. 87, p.



1463) "supplying this element in amounts that can be considered as roughly approximating the physiologic needs of the body has resulted in completely controlling the disease both in man and in animals."

**Pellagra.** Reports by Goldberger et al. of the U. S. Public Health Service (*U. S. Pub. Health Rpts.*, vol. 41, p. 207) confirmed their previous conclusion that fresh beef and yeast contain a pellagra-preventing substance of the nature of a vitamin and indicated that this vitamin is related to vitamin B. In their opinion the vitamin originally known as water-soluble B may include the antineuritic vitamin and the pellagra-preventing vitamin, a combination of both of which is necessary for growth in rats and presumably other mammals. Should further work confirm this assumption, what is now known as vitamin B must be considered a mixture of two factors to neither of which alone could the term vitamin B be applied in the sense in which it is now used. In the dietary treatment of pellagra as practiced by Goldberger and his co-workers, 200 grams daily of fresh beef or 15 grams daily of yeast vitamin Harris powder as a supplement to the diet on which the disease had been contracted sufficed to prevent its recurrence.

**Rickets.** According to a report by Wilson (*Amer. Jour. Diseases Children*, vol. 31, p. 603) the routine administration of cod-liver oil can not be relied upon implicitly to prevent rickets, but is of greater curative value. In the extensive series of studies reported, rickets as diagnosed by Röntgen-ray occurred in babies not over a month old. This would point to the advisability of using control or preventive measures in the first month, particularly for babies born in the winter. Among the substances which have been used in the treatment of rickets are irradiated cholesterol (Parsons, *Brit. Med. Jour.* No. 3408, p. 519) and irradiated orange juice (Maslow et al., *Bul. Johns Hopkins Hosp.*, vol. 39, p. 56). Provided the irradiation had no destructive effect on the vitamin C content of orange juice, the use of irradiated orange juice would seem to be a practical method of furnishing both vitamins C and D.

**Scurvy.** A concentrated orange juice manufactured in California was recommended by Priston (*Jour. Roy. Naval Med. Serv.*, vol. 12, p. 1) for adoption by the British Admiralty as an antiscorbutic for the Navy. It was estimated that 50 gallons of the concentrate would contain sufficient vitamin C to supplement the supply available in the tropical war diet of 1200 men for three months and that about 4000 pounds would be saved annually by substituting concentrated orange juice for the lime juice now issued.

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#### FOOD PRODUCTION AND POPULATION.

See AGRICULTURE.

**FOOT AND MOUTH DISEASE.** See VETERINARY MEDICINE.

**FOOTBALL.** The climax of the most sensational season of college football in the history of the sport was reached at Chicago when 110,000 persons watched the thrilling struggle between the elevens representing the United States Military Academy and the United States Naval Academy. This was the largest throng that was ever present at a gridiron struggle in the United States, and the outcome, a 21 to 21 tie, appeared more than fitting. Many startling upsets marked football in 1926, perhaps the most prominent being the lamentable showing made by the Dartmouth College team, which, although practically the same as the 1925 eleven which had swept aside all opposition and was one of the sensations of its year, bowed in turn to Yale, Harvard and Brown.

Only three teams in the entire country finished their schedules without suffering a defeat or a tie, these being Lafayette in the East, Alabama in the South, and Stanford on the Pacific Coast. One of the strongest elevens of the year was produced by Brown University, the only blot on the Providence college's record being a tie game with Colgate. The fact that Coach "Tuss" McLaughry of Brown employed only eleven men in two of the team's major contests gave his aggregation the name of the "Iron Men." So perfectly conditioned were his gridiron warriors that McLaughry made few substitutions until the final game when he gave some of the seniors on the squad a chance to win their letters.

The championship of the so-called "Big Three" was won for the second year in succession by Princeton, Yale taking second honors through its defeat of Harvard. Shortly after the Princeton-Harvard game at Cambridge, Princeton announced its decision to sever all athletic relations with Harvard and thus the "Big Three," long associated in athletic rivalry, passed. Alumni of the two institutions made a few efforts to patch up matters but to no avail, and the strained situation continued.

Many All-America elevens were picked by the "experts" after the close of the season. The selections for this mythical team varied widely but four or five players appeared to be generally recognized as preëminent in their respective positions. Benny Friedman of Michigan was practically the unanimous choice for quarterback. "Vic" Hanson of Syracuse at end was rated highly. Joesting, Minnesota fullback, and Connaughton, Georgetown guard, also received universal acclaim.

A summary of the games played by the leading colleges follows:

Alabama 54, Millsaps 0; Alabama 19, Vanderbilt 7; Alabama 26, Mississippi A. and M. 7; Alabama 21, Georgia Tech. 0; Alabama 2, Sewanee 0; Alabama 24, Louisiana State 0; Alabama 14, Kentucky 0; Alabama 49, Florida 0; Alabama 33, Georgia 6.

Stanford 44, Fresno State 7; Stanford 13, California Tech. 6; Stanford 19, Occidental 0; Stanford 33, Nevada 9; Stanford 29, Oregon 12; Stanford 13, Southern California 12; Stanford 33, Santa Clara 14; Stanford 29, Univ. of Washington 10; Stanford 41, California 0.

Lafayette 35, Muhlenberg 0; Lafayette 49, Schuylkill 0; Lafayette 17, Pittsburgh 7; Lafayette 43, Dickinson 13; Lafayette 30, Albright 7; Lafayette 16, Washington and Jefferson 10; Lafayette 37, Rutgers 0; Lafayette 68, Susquehanna 0; Lafayette 35, Lehigh 0.

U. S. Naval Academy (Navy) 17, Furue 13; Navy 26, Richmond 0; Navy 24, Drake 7; Navy 27, Princeton 13; Navy 13, Colgate 7; Navy 10, Michigan 0;

Navy 58, West Va. Wesleyan 7; Navy 10, Georgetown 7; Navy 85, Loyola (Baltimore) 18; Navy 21, Army 21. Brown 14, Rhode Island State 0; Brown 85, Colby 0; Brown 32, Lehigh 0; Brown 27, Bates 14; Brown 7, Yale 0; Brown 10, Dartmouth 0; Brown 27, Norwich 0; Brown 21, Harvard 0; Brown 40, New Hampshire 0; Brown 7, Colgate 7.

Georgetown 42, Drexel 0; Georgetown 6, Pittsburgh 6; Georgetown 78, Washington College 0; Georgetown 10, West Virginia 18; Georgetown 84, Lebanon Valley 7; Georgetown 18, Syracuse 7; Georgetown 7, Navy 10; Georgetown 39, Fordham 0; Georgetown 0, Center 0; Georgetown 19, Detroit 0.

New York University 34, Niagara 0; New York University 13, Allegheny 0; New York University 24, West Va. Wesleyan 7; New York University 21, Tulane 0; New York University 30, Rutgers 0; New York University 27, Fordham 3; New York University 6, Carnegie Tech. 0; New York University 10, Davis and Elkins 0; New York University 7, Nebraska 15.

Colgate 19, Hamilton 0; Colgate 46, Clarkson 0; Colgate 44, St. Bonaventure 0; Colgate 16, Pittsburgh 19; Colgate 7, Navy 13; Colgate 38, Michigan State 6; Colgate 28, Providence 0; Colgate 10, Syracuse 10; Colgate 7, Brown 7.

United States Military Academy (Army) 21, Detroit 0; Army 21, Davis and Elkins 7; Army 27, Syracuse 21; Army 41, Boston University 0; Army 83, Yale 0; Army 55, Franklin and Marshall 0; Army 0, Notre Dame 7; Army 21, Ursinus 15; Army 21, Navy 21.

Pennsylvania 41, Franklin and Marshall 0; Pennsylvania 40, Johns Hopkins 7; Pennsylvania 44, Swarthmore 0; Pennsylvania 27, Chicago 0; Pennsylvania 36, Williams 0; Pennsylvania 0, Illinois 3; Pennsylvania 3, Penn State 0; Pennsylvania 3, Columbia 0; Pennsylvania 10, Cornell 10.

Professional football which made such a startling advance in 1925, suffered a serious setback in 1926. Inclement weather was somewhat responsible for the falling off in attendance in the larger cities comprising the National Professional Football League circuit but the advent of an new organization, termed the American League, also had a most deleterious effect. Some of the clubs were forced to disband while others barely broke even in their finances. The championship of the National League was won by the Frankford "Yellow Jackets" of Philadelphia. The Philadelphia "Quakers" captured the American League title. See SOCCER.

**FORD, HENRY.** See LABOR, AMERICAN FEDERATION OF.

**FORDHAM UNIVERSITY.** A Roman Catholic institution for higher education at Fordham, New York City; founded in 1841. It is the largest Catholic educational institution in America, and is under the Society of Jesus. The enrollment for 1926-27 totaled 5532 students, including 1320 in the graduate school and teachers' college, and a distribution among the other colleges as follows: Law, 1480; pre-law, 346; college, 1151; business administration, 93; pharmacy, 597; social service, 24; preparatory work, 521. The registration for the summer school of 1926 was 1198. There were 200 faculty members. The endowment fund on June 30, 1926, amounted to \$106,040. There were 100,000 volumes in the library. A new building providing for a new biological laboratory and lecture rooms, as well as more classroom space for that college, was under construction. A unit of the Coast Artillery Reserve Officers' Training Corps was organized in the college department during the year. President, Reverend William J. Duane, S.J., Ph.D.

**FOREIGN EXCHANGE.** See FINANCIAL REVIEW.

**FORESTRY.** From an international forestry viewpoint, the most interesting event of the year was undoubtedly the World Forestry Conference, held in Rome, Italy, from April 29 to May 5, 1928. Over 600 delegates, representing 58 widely scattered nations, all united on the proposition that the forest resources of the world must be

conserved. Opened auspiciously in the presence of the King of Italy and Premier Mussolini, the conference progressed in a very satisfactory manner except for the confusion arising from the lack of a common language. However, considerable progress was made, especially along the lines of arranging for the collection and distribution of forestry statistics, deemed an essential index to international forestry progress. Grazing, forest injury, education, research, legislation and taxation were also discussed. The monotony of regular meetings was effectively broken by several excursions to important forest districts and by the usual routine of receptions and dinners. Tentative plans for a similar meeting in 1930 were outlined.

From the standpoint of conservationists, the failure of certain powerful groups of stockmen to push through legislation giving them permanent grazing rights in the national forests was the most noteworthy happening of the year in the United States. Success on the part of the stockmen would have meant the breaking down of the governmental control policy, which aimed at equitable treatment of both large and small users and the maintenance of forest ranges in a condition of permanent productivity. The quick, general reaction against the stockmen's proposal showed that the people of the United States were wide awake to the needs of conserving the forests, and that any measures designed to weaken their rights in the national holdings would not be tolerated.

**NATIONAL FORESTS.** From figures presented in the Report of the Forester of the U. S. Department of Agriculture, the net area of the national forests on June 30, 1926, was 158,759,210 acres, an increase of 364,154 acres during the fiscal year. Most of the additions were in rather small units, the largest, 19,905 acres, being made in the Absaroka Forest in Montana. The policy of consolidating the national forests by the purchase or exchange of detached areas for privately owned sections within the publicly owned areas was continued with success. Revenues from the national forests from the sale of timber and grazing privileges exceeded \$5,000,000. A deficit in grazing receipts approximating \$300,000, caused by the waiver of fees in drought-stricken areas in the Southwest, was more than offset by increased timber sales. The construction of highways, roads, and trails designed to open up the national forests and to serve as means of access in time of fire continued as a major activity of the Forest Service during the year.

**FOREST FIRES.** Despite improved fire control practices, such as the use of airplanes for scouting, 1926 proved to be an unusually bad forest fire year, ranking fourth in the five most disastrous seasons occurring since 1905. Widespread cumulative droughts extending over a period of several years had placed the forests in very hazardous condition. Lightning was an unusually active causal agent, starting in a period of 10 days 319 out of 397 fires in Montana and northern Idaho alone, and in the Sierra National Forest in California, 65 fires during a single storm. On the other hand, man-caused fires showed an encouraging decrease. Starting early in the spring in the southern Appalachians, the fire scourge was present throughout a large part of the growing season. In the Northwest, fires were frequent until late August, when heavy rains relieved the difficult situation. Preliminary fig-

ures for the national forests alone show 704,000 acres burned over as a result of 6229 fires. Considerable progress was made during the year in studies of the causes of fires, climatic conditions associated with fire hazards and the best methods of fighting fire. Forecasts of dangerous weather conditions, disseminated by the Federal Forest Service through the press and by radio to ranchers and lumbermen, assisted materially in the reduction of fires.

**LUMBER SITUATION.** Tentative figures supplied by the National Lumber Manufacturers Association, Washington, D. C., and based upon the production of 15,800 mills, constituting approximately one-third of the total number in the United States, indicate that lumber production fell off slightly in 1926 as compared with the preceding year, for which the census showed 38,338,641,000 feet. A slight decline in 1926, amounting to 2 per cent, was not sufficient to suggest any appreciable let-up in the building activities which have proceeded at a feverish rate since the close of the World War. Adding to the United States output that of Canada, namely, 5,000,000,000 board feet, it is little wonder that conservationists ponder seriously upon that time when the great primeval forests shall have become exhausted. Evidence that the lumber manufacturers were urgently seeking to reduce unnecessary waste was seen in their active co-operation with the Federal Forest Products Laboratory in standardizing grades and in their willingness to adopt improved practices.

**DEVASTATING PESTS.** In various sections of the Western forests bark beetles became so destructive to growing timber as to rival fire in their injurious effects. Millions of feet of merchantable timber were destroyed in spite of strenuous control efforts. Severe outbreaks in Montana threatened the valuable western white and lodgepole pine stands. Just why a relatively harmless insect should quite suddenly develop into a veritable scourge is considered one of nature's unsolved riddles. A rather severe outbreak of gypsy moth in the scrub oak forests of Cape Cod, Mass., was brought under control by dusting with poisons scattered from airplanes.

That blister rust, an even more formidable enemy of the pines than insects, threatens the magnificent forests of the Northwest was shown in the discovery of infected plants of the alternate host, *Ribes* sp. in Oregon and Washington. Little hope is offered that this destructive disease will not spread throughout the pines of all the Western States. As a means of delaying the rapid spread of the disease, a quarantine was put into effect on October 1 by the Federal Department of Agriculture, regulating the movement of five-leafed pines, currants and gooseberries from State to State. The eradication of *Ribes*, successfully used in Eastern forests as a method of control, naturally becomes quite impossible in the vast forest areas of the West.

Chestnut blight made rapid progress in its destructive march through the southern Appalachian forests, making certain the complete eradication of this valuable species in North America. Fortunate plantings established in far Western States may save the species from utter extinction. The loss of chestnut timber will be a serious blow, not only to the lumber, but also to the tanning industry.

**FOREST RESEARCH.** In authorizing the establishment of two forest experiment stations, one

in the Ohio-Mississippi valley area and the other one in the Pennsylvania-West Virginia region, Congress opened the way for the completion of a long-desired chain of research stations covering all the principal forest types of the United States. Under instructions of the Secretary of Agriculture, the recently created California Forest Experiment Station was located at Berkeley so that Federal officers might maintain close relations with State officials and profit fully by the work already accomplished. Privately endowed research stations continued to turn out constructive results during the year. For example, studies at the Harvard University Forest (*Harvard Forest Bul.* No. 8) indicated that mixed stands of white pine and hardwoods are more desirable and profitable than pure stands of white pine. The Forest Products Laboratory at Madison, Wis., actively pursued studies designed to aid the lumber manufacturers and consumers in reducing losses and making the most of raw materials. For example, a method was developed for steam bending chair parts which practically eliminates breakage; this has at times reached 25 per cent. As an aid to practical lumbermen, methods were devised for determining the moisture content of drying lumber, and grading rules were promulgated with a view to greater uniformity and less waste.

**MISCELLANEOUS.** A unique departure in forest seed sowing was inaugurated on the Hawaiian Islands when airplanes were used in planting rather inaccessible, burned-over lands. Rough estimates indicated that two men in airplanes accomplished as much in two hours as two men on the ground could have done in several years. British foresters formed a new society to be known as the Society of British Foresters and designed to maintain friendly and helpful relations between the widely scattered units of the Empire Forest Service. Foresters from various parts of the world took an active part in the International Congress of Plant Sciences held at Ithaca, N. Y., Aug. 16-23, 1926. Dr. Tor Jonson, of Stockholm, Sweden, presided as chairman of the forestry section. Representatives of 14 forest schools attended the second annual school conference held at the Forest Products Laboratory, Madison, Wis.

**BIBLIOGRAPHY.** Forest literature, as in the preceding year, was largely restricted to brief articles appearing in the public press and current periodicals. Among noteworthy books may be listed the following: H. H. Chapman, *Forest Finance* (New Haven, Conn., 1926); E. P. Stebbing, *The Forests of India*, vol. 3 (London, 1926); H. P. Brown, *An Elementary Manual on Indian Wood Technology* (Calcutta, 1925); F. Roth, *Michigan Manual of Forestry—II, Forest Valuation* (Ann Arbor, Mich., 1926, 2nd rev. ed.); S. J. Record and G. A. Garratt, *Boxwoods* (Yale Univ. School Forestry Bul. 14, 1925). See also AGRICULTURE, U. S. DEPARTMENT OF.

**FORMOSA or TAIWAN.** An island belonging to Japan off the Chinese province of Fukien; formerly belonging to China but ceded to Japan, May 8, 1895. Area, 13,888 square miles; population, according to the census of 1920, 3,654,398; estimated in 1923 at 3,976,098. There were 181,847 Japanese and 30,703 foreigners on the island in 1923. Capital, Taihoku, with a population of 180,362 in 1922. Other large towns are Tainan, Kagi, and Taichu. In 1923 there were

131 primary schools for the instruction of Japanese, with 731 teachers and 22,797 pupils; and for the instruction of the natives there were 467 schools with 5092 teachers and 215,108 pupils.

Formosa produces in commercial quantities nearly every tropical, subtropical, and temperate zone product. The island supplies all the world's oolong tea and produces nearly all the world's natural camphor. The sugar industry, however, is the most important. The production of raw sugar amounts to more than 1,000,000,000 pounds annually. Of the 156 sugar mills in operation in 1925, 44 were thoroughly modern plants. The entire output is shipped to Japan, with the exception of that used in local consumption and an inferior grade shipped to China. The production of tea averages about 21,000,000 pounds annually of which the United States takes about 10,000,000 pounds. The yield of rice was over 25,000,000 bushels and the 1924 banana crop was valued at \$5,000,000. The indigo, hemp, pineapple, grapefruit, papaya, peanut, bean, and cereal industries are also important producers. Gold, silver, and copper are mined in considerable quantities, and coal and sulphur are exported. The exports in 1924 were valued at \$126,837,088 and the imports at \$66,513,048. The revenues and expenditures have grown enormously under Japanese rule and at the present time amount to around 100,000,000 yen annually. The budget has never shown a deficit. Revenues for the fiscal year beginning April 1, 1926, were estimated at 99,775,266 yen, of which the taxes provide 15,554,947 yen. Government monopolies and receipts from the railroads and from other government property total 74,952,387 yen, and miscellaneous receipts provide the remainder. The principal expenditures are for communications and transportation, for the management of the government's monopolies, for forestry, and for maintenance of various administrative bureaus. The island is under a governor-general, who is supported by a well-organized force of Japanese police. Governor-general at the beginning of 1926, Takio Izawa.

**FORREST**, SIR GEORGE WILLIAM. British administrator and historian of India, died January 28. He was born at Nusseerabad, India, Jan. 8, 1846, and graduated from St. John's College, Cambridge University. He was a fellow of the Bombay University, and after reading for the bar became a member of the Inner Temple. In addition he contributed to the *Saturday Review* and other London journals, and in 1872 was appointed to the Bombay Educational Department. In 1882 he acted as census commissioner for Bombay and then was employed on special duty in connection with Bombay records. In 1887 he was made professor of English History at Elphinstone College, and in 1888 he was made director of records for Bombay. In 1891 he received a similar appointment for the Government of India, serving in this capacity until 1900. Sir George was made assistant secretary to the Government of India in 1898, secretary to the Government of India patents branch in 1894, and retired from official life in 1900, devoting himself to historical studies. Made a Companion of the Order of the Indian Empire in 1899, he was knighted in 1913. His publications include: *Selections from the State Papers Preserved in the Bombay Secretariat* (Home Series); (Mahratta Series); *Selections from the*

*State Papers Preserved in the Foreign Office Government of India, relating to Warren Hastings; The Administration of Warren Hastings* (1892); *Selections from the State Papers Preserved in the Military Department of the Government of India Relating to the Mutiny*, vol. i. Delhi; vol. ii. Lucknow; *The Administration of the Marquis of Lansdowne* (1894); *Sepoy Generals; Cities of India; History of the Indian Mutiny*, vols. i, ii and iii (1904-12); *Life of Sir Neville Chamberlain* (1909); *Life of Lord Roberts, K. G., V. C.* (1914); *Life of Lord Clive* (1918). Of his writings the best known are those in connection with the Indian Mutiny based in large measure on the original records.

**FORT MOULTRIE ANNIVERSARY OF.** See CELEBRATIONS.

**FORTY-EIGHT, COMMITTEE OF.** A political movement engaged in the organization of a national Progressive party whose platform is the abolition of the unjust economic advantage by possession of which a small group controls natural resources, transportation, industry, and credit. It is composed of representatives from the 48 States of the Union, from which it derives its name. The Committee operates by building up its party state by state, and delegates from the states so organized assemble at a national conference. The principles advocated are the public control of natural resources, public ownership of railroads, governmental banking, and equal rights for all citizens. A practice of "pamphleteering" is carried on during presidential and congressional elections, presenting through pamphlet service information relative to domestic economic issues which are subjects of controversy or contest. At election times it assists in the formation of progressive parties in the various States. During the year 1926 the Committee gave special emphasis to its educational programme, conducted by the National Bureau of Information and Education, its educational department, which was organized to broadcast the facts in respect to the issues requiring immediate attention so that the voters may be fully and correctly informed, and may have an opportunity to vote intelligently. Membership in the committee or party is on a dues-paying basis, and the amount of the monthly payment is left to the discretion of each enrolling person. A monthly magazine, *The Liberal*, is published at the national headquarters, 15 East Fortieth Street, New York. In 1926 the officers were as follows: J. A. H. Hopkins, chairman of the executive committee; Howard R. Williams, vice-chairman; Melinda Alexander, secretary; Charles H. Ingersoll, treasurer.

**FOSSIL MAN.** See ANTHROPOLOGY.

**FOSTER, BEN (JAMIN).** An American landscape painter, died on January 28. He was born at North Anson, Me., in 1852, and studied with Abbott Thayer in New York, and Luc Oliver Merson and Aimé Morot in Paris. His art was marked by French methods, and he was considered particularly successful in securing the mystic effects of early morning and evening, and moonlight nights. He was awarded a medal at the Chicago Exposition in 1893, and second prize for water colors at Cleveland in 1895. He received a bronze medal at the Paris Exposition in 1900, and a silver medal at the International Exhibition at the Carnegie Institute of Pittsburgh, in the same year. In 1901 he received a silver medal at the Buffalo Exposition,

and in the same year was awarded the Webb prize for his "Mists of the Morning" from the Society of American Artists in New York. Foster was also honored by the St. Louis Exposition in 1904, and in 1906 received the Carnegie prize of the National Academy of Design, and in 1908 was awarded the Inness gold medal from the same institution. From the National Arts Club in 1917 he received a gold medal, and in the same year the Altman prize of the National Academy of Design. He was chosen to the National Academy in 1904, and was a member of the National Institute of Arts and Letters as well as various other art organizations in the United States, Canada, and Europe. Among Foster's notable works are: "Lulled by the Murmur of a Brook," in the Luxembourg Gallery, Paris; "Sunset in the Litchfield Hills," in the Corcoran Art Gallery, Washington; "Birch Clad Hills," in the National Gallery, Washington; "Misty Moonlight Night," Brooklyn Institute Museum; "In the Connecticut Hills" (1914), Metropolitan Museum, New York; and other paintings in the Pennsylvania Academy, Philadelphia, the Toledo Museum, and private galleries. Later works, among them "Late Summer Moonrise," "Litchfield Hills," "Hazy Moonrise," and "From Hill to Hill" continued to show his interest in the mystic effects of dawn and twilight as well as of moonlight nights.

**FOSTER, STEPHEN C.** Anniversary celebration of birth. See CELEBRATIONS.

**FOWLER, GEORGE LITTLE.** American mechanical engineer and author, died at Brooklyn, N. Y., July 2. He was born at Cherry Valley, N. Y., Aug. 9, 1855, and graduating from Amherst College in 1877 entered the shops of the Miltmore Car Axle Company, Arlington, Vt., where he remained for three years. He then was engaged with the New York Central Railroad and various manufacturing companies until 1889, when he opened an office in New York City as a consulting engineer specializing in research work in the field of locomotive design, construction, and operation. In 1887 he was United States commissioner to the Railway Exposition in Paris, and in the same year became contributor to the *Railroad Gazette*, later becoming its associate editor, as well as associate editor of the *Journal of Railway Appliances*. He was a contributing editor to the *Railway Age-Gazette* and the *Railway Age* until 1919 when he joined the staff of *Railway and Locomotive Engineering*. He compiled and edited the *Locomotive Dictionary*, published in 1906 and 1909. He wrote; *The Car Wheel*; and also *Locomotive Breakdowns, Emergencies and Their Remedies*; and revised Forney's *Catechism of the Locomotive*. He was a member of various engineering railway societies, serving on important committees, and carried on a number of investigations both in the field and in special research. He made the first investigation of the lateral stresses imposed on car and locomotive wheels while in service, and also of resistance problems and gyroscopic action of motors on electric locomotives.

**FRANCE.** A republic of western Europe, lying between 42°20' and 51°5' N. latitude and 7°45' and 4°45' W. longitude. Capital, Paris.

**AREA AND POPULATION.** The area before the War was 207,054 square miles; total area in 1926, 212,659 square miles. The additions obtained under the Peace Treaty, and correspond-

ing to Alsace-Lorraine under the German Empire, comprise the new departments of Bas-Rhin, 1848 square miles; Haut-Rhin, 1354 square miles; and Moselle, 2403 square miles. According to the census of 1921, the population was 39,209,518, but not including the military and naval forces and the crews of merchant ships abroad. The exclusions numbered 192,973 in 1921. The population in 1911 was 39,604,992 excluding Alsace-Lorraine. The populations of the three departments obtained from Germany were according to the census of 1921, Bas-Rhin, 651,686; Haut-Rhin, 468,943; and Moselle, 589,120. The cities with a population of over 200,000 at the census of 1921 were as follows: Paris, 2,906,472; Marseilles, 586,341; Lyons, 561,592; Bordeaux, 267,409; and Lille, 200,952. The population of the devastated regions reduced from 4,654,000 to 2,075,000 during the War, had risen to 4,250,000 in January, 1924. The movement of population in 1925 was: Births, 768,983; deaths, 708,919; marriages, 353,167; divorces, 20,002.

As may be seen from the above statistics the population of France had declined between 1911 and 1921 despite the addition of the regions acquired from Germany. While this may be attributed in large part to the War, it is also caused by the falling birthrate of the country. This topic is continually before the public and all manner of methods have been advanced to successfully cope with the problem. For a discussion of the question consult the preceding YEAR BOOK.

**EDUCATION.** Elementary instruction is free and compulsory between the ages of six and 13. No later figures on primary instruction are available than those given in the preceding YEAR BOOK, when there were 3749 public and private infant schools with 315,632 enrolled pupils and 81,448 public and private primary schools with 3,973,033 enrolled pupils. Secondary education is provided by *lycées* supported by the state, colleges supported by the communes, and free schools supported by private individuals and associations. Higher education is provided by the state universities, special schools under the direction of the state and various private schools and faculties. The following tables from the *Statesman's Year Book* for 1926 show the seventeen universities of France with the date of their founding and the number of students on July 31, 1924, as well as the number of students by faculties for 1922, 1923, and 1924:

Universities	Students
Aix-en-Provence (1409) .....	1,735
Algiers .....	1,489
Besançon (1485) .....	347
Bordeaux (1441) .....	2,752
Caen (1432) .....	977
Clermont-Ferrand (1808) .....	437
Dijon (1722) .....	740
Grenoble (1339) .....	2,115
Lille (1580) .....	2,070
Lyons (1808) .....	3,288
Montpellier (1125) .....	2,081
Nancy (1572) .....	2,002
Paris (1150) .....	22,155
Poitiers (1431) .....	1,270
Rennes (1735) .....	2,164
Strasbourg (1567) .....	2,818
Toulouse (1230) .....	2,456
Total .....	50,891

\* Including 213 students in the two faculties of Theology.

<i>Students of</i>	<i>State institutions</i>		
	1922	1923	1924
Law .....	17,926	17,197	16,888
Medicine .....	9,424	9,218	9,551
Sciences .....	10,863	10,419	10,788
Letters .....	8,299	8,881	9,042
Pharmacy .....	1,759	2,085	2,287
Schools of Medicine and Pharmacy .....	2,417	2,400	2,127
Theology .....	218	217	218
Total .....	50,906	50,867	50,891

Other institutions dependent upon the ministry of public instruction include: Collège de France; Museum of Natural History (which gives instruction in the sciences); Practical School of Higher Instruction, with its seat at the Sorbonne, offering courses in history, philology, and science; École des Beaux Arts; and various others. Dependent upon the other ministries are various institutions of technical instruction, including schools of commerce, agriculture, mines, forestry, military and naval science, etc., and, finally, there are numerous technical schools of a lower grade dependent upon the ministry of public instruction.

**PRODUCTION, MINERAL RESOURCES, FORESTS, ETC.** Inasmuch as the French are great bread eaters, it naturally follows that the chief grain crop is wheat. The most productive regions of wheat are those to the west and the country around Paris. In the valley of the Rhone and the region to the southwest hard wheat is cultivated for the most part. Barley is produced especially in the west, above all in the departments of Côtes-du-Nord, Eure, and Ile-et-Vilaine and Mayenne. Rye is cultivated chiefly in Brittany; oats in the centre and the northwest; corn in the departments of Landes, Basses-Pyrénées, and Haut-Garonne. The potato is especially cultivated in the districts of the west and central regions; also in Brittany and in the departments of Corrèze, Creuse, Dordogne, Jura, and Haute-Loire, and the Vosges. The sugar beet is cultivated especially in the north where are found sugar refineries. The chief industry related to agriculture is wine production. The wines include the ordinary wines of the Midi, wines of the central regions and of the departments of Gers and Basse-Bourgogne. Then there are fine wines of the Bordelais and the famous wines of Burgundy. The yield of wheat in 1925 was 329,047,100 bushels; rye, 44,767,630 bushels, barley, 48,938,420 bushels, and oats, 330,300,000 bushels. In 1924 the production of wine was 1,806,000,000 gallons. On Jan. 1, 1925, the number of farm animals was: Horses, 2,859,400; mules, 192,930; asses, 279,640; cattle, 14,024,960; sheep and lambs, 10,171,520; pigs, 5,801,530; and goats, 1,376,510.

The chief manufactures are sugar, alcohol, and the textile industry. In 1924-25 the production of refined sugar was 750,280 metric tons. In the same year 2,223,800 hectoliters of alcohol were manufactured. The silk production amounted to 4,224,000 kilos valued at 75,989,000 francs.

Although mining activity is conducted along a wide variety of lines, iron ore and coal far exceed other lines of importance. The production of other mineral ores in 1924 was as follows: Lead, zinc, and silver, 39,900 metric tons; copper 118 tons; antimony, 3400 tons; gold 68,900 tons; manganese, 3700 tons; salt, 1,288,600 tons; and potash products, 1,059,000 tons. French production of iron ore in 1913 averaged

1,826,000 metric tons per month but at that time the Metz-Thionville Basin, which is now French, was in German territory. As this region then produced an average of 1,760,000 tons per month the total 1913 production in the present area of France averaged 3,586,000 tons. Post-war production in France steadily advanced from only 1,160,000 metric tons per month in 1920 to 2,416,000 tons in 1924. The 3,090,000 tons of iron ore raised in September, 1925, represents not only a considerable advance over pre-war French production but an approach to the total resulting from inclusion of the product from the Metz-Thionville Basin.

After a progressive increase during post-war years, French coal production in 1925 reached 48,033,000 metric tons, an advance over the pre-war record of 40,844,000 tons in 1913. The Pas-de-Calais output showed a considerable gain over its record for 1913. A comparison of the production of 1913 with that of recent years in this field, the Department of the Nord, and the whole of France is given in the following table.

FRENCH COAL PRODUCTION

<i>Year</i>	<i>Pas-de-Calais</i> <i>Metric tons</i>	<i>Nord</i> <i>Metric tons</i>	<i>France</i> <i>Metric tons</i>
1913.....	20,575,000	6,814,000	40,844,000
1919.....	7,330,000	550,000	22,400,000
1922.....	19,950,000	4,430,000	31,910,000
1923.....	15,280,000	5,611,000	38,543,000
1924.....	18,822,000	6,826,000	44,955,000
1925.....	21,112,000	7,605,000	48,033,000

All the mines in the Pas-de-Calais region considerably increased their output in 1925, except those in the extreme westerly portion, where the extraction remained stationary. The rehabilitation of the Pas-de-Calais mines by 1926 might be considered complete—except for a few in Lens and Lievin—and their greater development more than compensates for the loss of production in the two sections. When the Lievin and Lens mines are rehabilitated, the annual production of the Pas-de-Calais fields would approximate probably 25,000,000 tons. In 1925 the importation was divided into 18,297,000 tons of coal, 5,002,000 of coke, and 1,264,000 of patent fuel. The largest contributor was England, which furnished 9,937,000 tons of coal, 10,000 tons of coke, and 168,000 tons of patent fuel—a decrease of 3,100,000 tons from its 1924 contribution. Germany was second on the list, followed by Belgium-Luxemburg, the Netherlands, and the United States. The coke industry had grown considerably during the year under review and by the end of 1926 coke production in Pas-de-Calais and the Nord was expected to approximate 4,000,000 metric tons. This amount of coke would require 5,500,000 tons of coal for its production, and furnish 165,000 tons of coal tar; 30,000 of benzol, 55,000 of sulphate of ammonia, and 700,000,000 cubic meters of gas.

The French forests have an area of more than 24,710,439 acres, or about 19 per cent of the entire country. About 17,297,308 acres belong to private interests; 4,942,088 acres to numerous communes, and 2,471,044 acres to the national government. The annual production for construction purposes was estimated at 8,500,000 cubic feet (3,604,000,000 board feet), and for firewood at 17,000,000 cubic meters. Considering the relatively small area of France, the wide diversity of trees is surprising. Among the most useful are the resinous varieties, such as the mountain

spruce of the Jura and the Alps, the larch of the Alps, the mountain pines of northern and central France, the maritime pines of southern and southwestern France, the Aleppo pines in Provence, and the black or Austrian pine in the Champagne region and eastern France. Among the hardwoods the oak is the most common.

The destruction of forests in the devastated area during the war was not so serious as had been previously estimated. In the war zone 410,193 acres of forest were completely destroyed. Over a forest area of 1,200,927 acres, about 25 per cent of the trees had disappeared. This represented a loss in annual production of about 400,000 cubic meters of construction timber. It was stated that outside of the war zone in the forests under government control about 4,000,000 cubic meters of construction timber and 1,000,000 cubic meters of firewood were cut in excess of the quantity which would have been removed under normal conditions.

No statistics are available in regard to forests belonging to private individuals. However, careful estimates would appear to indicate that considerably more than 2,000,000 cubic meters were cut in excess of the natural production. The important requirements of the devastated area for reconstruction purposes constitute the greatest danger to the recovery of the forests, as the high prices of timber tempt private individuals to sacrifice their holdings for large immediate profits. Up to the middle of 1926, about 4,000,000 cubic meters of timber were required for reconstruction purposes.

COMMERCE. According to the United States Bureau of Foreign and Domestic Commerce, no important change in the amount of the favorable trade balance of France for 1925 as compared with 1924, expressed in paper francs, is shown by trade statistics; but the development of the balance, especially in the latter half of the year, gave an unsatisfactory outlook for French foreign trade. Exports in 1925 had a total value of 45,413,555,000 paper francs and imports a value of 43,980,506,000 francs, with a balance of 1,433,049,000 francs in favor of the former, whereas in 1924 the figures had been 41,468,300,000 francs and 39,928,002,000 francs, respectively, with an export balance of 1,321,563,000 francs.

The month-by-month development of the trade, however, indicated a decided change in the situation beginning with August, 1925. Each month thereafter showed an unfavorable balance which tended to increase in amount. The unfavorable balance of 39,005,000 francs in August was multiplied to 467,140,000 in September, to 101,494,000 in October, to 380,876,000 in November, and to 817,112,000 in December. In view of the variation in the French franc, with a reduction in the average value from \$0.05237 during 1924 to \$0.04767 during 1925, statistics of weight offer a better basis for determining actual trends. The following table, on this basis, shows a divergent tendency in the import and export trade:

FRENCH IMPORTS AND EXPORTS, BY WEIGHT  
[In metric tons]

Items	1924	1925	Difference for 1925
Imports			
Foodstuffs .....	5,687,258	5,118,398	- 568,855
Raw materials ..	49,429,164	41,072,245	- 8,356,919
Manufactured articles .....	1,474,946	1,284,929	- 240,017
Total .....	56,591,368	47,425,572	- 9,165,791

Items	1924	1925	Difference for 1925
Exports			
Foodstuffs .....	1,683,802	1,386,681	- 247,171
Raw materials ...	24,101,708	24,607,542	+ 505,834
Manufactured articles .....	8,618,549	4,189,967	+ 576,418
Parcels post shipments .....	88,031	41,842	+ 3,892
Total .....	29,387,090	30,225,982	+ 838,892

\* Of which coal, coke, and briquettes comprised 31,517,010 tons in 1924 and 24,561,205 tons in 1925, with negative differential of 6,955,805 tons.

The imports fell off in weight in all the larger classifications. The decline in foodstuffs and manufactured articles was a result of a number of influences, such as decreased buying power and, in some lines, better yield from local sources. The decline in imports of raw materials for industry was partly due to the inclusion of Saar products in the domestic yield (formerly classed as imports) and partly to the better yield of domestic mines. Weights of exports showed a satisfactory increase. Taken on the general average, the ton of merchandise imported cost 700 francs in 1924 and over 900 in 1925, a rise of almost 30 per cent. In contrast, a ton of merchandise exported brought 1400 francs in 1924 and 1500 in 1925, an increase of 7 per cent.

In its import trade, which showed a tonnage decline, France found that prices adjusted themselves fairly promptly to the fall in the value of the franc; in the export trade, which showed a tonnage advance, the adjustment of the sales prices was much less marked. These disparities are still further emphasized, if comparisons be made for the latter months of the year only, when the value of the franc was declining rapidly. In the month of December, when the fall of the franc was particularly rapid, imports increased in value by more than 1,500,000,000 francs, as compared with the same period of 1924, or approximately 40 per cent. On the other hand, the fall in weight in this period was about 18 per cent. The average ton of imports cost 800 francs in December, 1924, and 1350 francs in December, 1925, an increase of about 70 per cent, whereas the average value of a ton of exports increased only 15 per cent. Currency depreciation therefore has not only disturbed the interior finances of the country, but has had a very unacceptable influence on the balance of trade. Under such conditions the greater the stimulation of exports, the greater is the actual loss to French manufacturers, and the apparent advantages of increased exports seem to be far outweighed by accompanying disadvantages.

As a whole, the trade balance of 1925 was not encouraging. The excesses of export over import values for the first seven months were later replaced by unfavorable items. The favorable balance of almost 3,250,000,000 francs at the end of July fell to a little over 1,400,000,000 francs at the end of the year. While total imports rose markedly in value, they showed a great falling off in weight. Exports showed a less marked rise in value with a marked increase in weight. Analysis of details was not more encouraging, especially in the case of those raw materials which France must perforce obtain from abroad. Sales prices in foreign trade had not been adjusted to replacement costs. French industry appeared to be in the position of the



merchant who sells more merchandise than he receives without getting in at the same time equivalent assets in hard cash, and thus "eats up his capital."

The position was not new for countries whose currency had a steady fall in international exchange. Though the current activity of French industry was fairly well maintained, less raw materials were being imported. Apparently, stocks of raw materials and of goods manufactured therefrom were not being kept up—a condition, which, if it continued, must result in forced purchase of increased supplies or a slowing down of the rate of production. The economic importance of stabilization of the currency and of adjustment of sales prices to replacement costs, rather than to the nominal purchase prices of material, is amply demonstrated by the apparent strength but actual weakness of the French foreign trade position in 1925.

**RECONSTRUCTION.** The total expenses of reconstruction and restoration that the French government had engaged itself to meet, amounted at the close of 1925 to 102,000,000,000 francs, according to a report given out by the Statistical Society of Paris. Of this amount, 85,000,000,000 francs represented claims of private firms and individuals, comprising 25,000,000,000 francs for damage to industrial property, 20,000,000,000 francs for damage to farming property, and 40,000,000,000 for damage to residences and other properties. The remaining 17,000,000,000 francs apply principally to interest charges, to reconstruction of state properties and railways, and also to expenses of government reconstruction bureaus.

At the end of 1925 the total government funds actually spent to meet property losses or damages amounted to 79,000,000,000 francs. On that date 53,165 kilometers of highways had been repaired out of the total of 58,697 that were damaged during the war, and 2361 kilometers of local railway lines had been restored to operation from the 2408 destroyed. Of the 17,616 public buildings destroyed or damaged, 11,343 had been rebuilt and 2856 provisionally repaired. Of 8344 constructions of various sorts connected with highways, railroads, and waterways, 6749 had been restored at the end of 1925.

Out of the 1,923,479 hectares of land requiring restoration, 1,815,449 hectares had been again placed under cultivation at the end of 1925. Of the 866,844 buildings destroyed or damaged, 521,913 had been rebuilt or repaired, of which 364,406 represent residences or business quarters. In addition, 42,400 temporary homes were erected from material left over at the end of the War, and 108,901 temporary wooden homes built during or since the War were still serving as residences. Of the 9332 destroyed or damaged factories, employing not less than ten workers each, 88 per cent (8228) had again been placed in operation. The pumping and other work in the mines had been completed in the departments of Nord, Meurthe-et-Moselle, and Meuse, but considerable work remained to be done in the Department of Pas-de-Calais.

**FINANCE.** The French budget for 1926 in its final form showed considerable deviation from its original status as presented by Finance Minister Caillaux in the summer of 1925, as well as from the final budget for 1925. Discussion of the

1926 budget in the Senate and Chamber of Deputies brought about a realization that the increases in expenditure shown in the first draft were not sufficient to cover all requirements; consequently the total had to be raised and the receipts strengthened accordingly. Moreover, many of the new taxes proposed in the first draft were not enacted, so that it became necessary to create new sources of revenue in order to produce the required result. The budget of 1925 represented an advance over previous budgets in that a number of previously extra budgetary expense items were included in its scope, but further progress in this direction was necessary to make the budget all inclusive.

In presenting the first draft of the 1926 budget the Minister of Finance announced that the aim of the administration was to have a budget based, as to receipts, on tax proceeds alone and to leave receipts and expenditures in "irreproachable balance." Many changes were introduced before final passage of the budget at the end of April, 1926, but the same idea was adhered to, and the budget, as nearly as possible, covered all types of expenses by revenues from sources other than borrowing. The principal exception to this rule was the amount in "national defense" bonds and government rentes issued for reconstruction and war damage claims in lieu of cash payments. These are not included in the budget estimates, not being calculable in advance; in recent years they have been diminishing, but even in 1925 they exceeded 3,000,000,000 francs.

By the issue of these securities, direct cash payment was avoided, but the debt service was thereby increased and, in the case of the defense bonds, maturing in one year or less, redemption was required. The net result of the changes from the 1925 budget to the preliminary draft and thence to the final budget for 1926 is shown in the following table:

SUMMARY OF FRENCH BUDGETS FOR 1925  
AND 1926  
[In paper francs]

Item	1926		
	1925 (final)	(first draft)	1926 (final)
Revenues	33,150,844,678	36,172,091,077	37,498,739,468
Expenditures	33,137,180,618	36,039,407,619	37,338,389,202
Surplus	13,664,060	132,683,458	160,350,266

Receipts from direct and indirect taxes in the 1925 budget were valued at 25,381,000,000 francs, or 76½ per cent of total revenues, and income from monopolies and state services accounted for 2,640,000,000 francs, or 8 per cent of the total budget. In the 1926 budget as finally passed tax receipts were raised to 30,379,000,000 francs and constituted 81 per cent of the total; monopoly receipts were raised to 3,509,000,000 francs, and comprised 9.3 per cent of the total. The proportion derived from these normal sources was thus raised from 84.5 per cent in 1925 to 90.3 per cent in 1926.

The extensive changes introduced in various categories of receipts and expenditures in the 1926 budget, as compared with that for 1925, are shown in the following table:



**FRENCH BUDGET FINAL ESTIMATES FOR 1925  
AND 1926**  
[In million paper francs]

<i>Budget item</i>	<i>1925</i>	<i>1926</i>
<b>Revenues</b>		
Direct taxes .....	5,923.2	6,558.5
Taxes assimilated to direct taxes .....	248.5	870.6
Registration taxes .....	5,200.5	5,875.7
Stamp taxes .....	976.4	1,402.6
Tax on Bourso transactions .....	166.0	261.5
Tax on revenue from securities .....	1,849.0	1,791.6
Luxury tax .....	21.0	18.3
Customs duties .....	2,305.3	2,786.4
Indirect contributions .....	3,759.6	3,973.7
Business turnover tax .....	4,439.0	6,445.3
Sugar and saccharine tax .....	492.5	445.3
Monopolies .....	2,639.6	3,509.3
Revenue from State domain .....	374.5	583.4
"Order" receipts .....	1,556.2	2,025.6
Various budget revenues .....	307.5	411.0
Exceptional revenues .....	1,605.0	415.0
Revenue from Algerian sources .....	11.5	15.0
Receipts applying to reparation of war damages .....	1,275.5	159.9
<b>Total .....</b>	<b>33,150.8</b>	<b>37,498.7</b>
<b>Expenditures</b>		
Ministry of Finance:		
Consolidated debt .....	4,354.9	4,677.8
Long term and amortizable debt .....	10,430.1	10,466.3
"Dette viagère" (pension installments) .....	3,776.6	5,143.7
Monopoly and tax collection expenses .....	1,275.9	1,549.6
Ordinary operation of Ministry .....	1,918.3	2,084.3
Other .....	474.8	966.0
Ministry of Justice .....	147.6	153.2
Ministry of Foreign Affairs .....	131.7	166.4
Ministry of Interior .....	342.0	361.3
Ministry of War .....	3,466.9	4,296.4
Ministry of Marine .....	1,252.0	1,433.1
Ministry of Education and Fine Arts .....	1,736.0	1,778.4
Ministry of Commerce and Industry .....	28.8	396.3
Ministry of Labor, Hygiene and Social Insurance .....	641.4	810.6
Ministry of Colonies .....	254.1	269.4
Ministry of Agriculture .....	227.7	236.9
Ministry of Public Works .....	1,903.3	1,908.6
Ministry of Pensions .....	533.2	640.1
Ministry of Liberated Regions .....	241.9	(*)
<b>Total .....</b>	<b>33,137.2</b>	<b>37,338.4</b>

\* Combined with Ministry of Finance in 1926 budget.

While the budget itself indicated that all expenditures set forth were covered by revenues and while considerable progress had unquestionably been made toward meeting national obligations with national resources, it was universally recognized that the French financial problem was not completely solved by the 1926 budget. Reparation receipts were excluded from the budget so as to be available for payments on French foreign debts, but no provision was made for payment of the claims based on war damages in the devastated regions except by issuance of securities, which represent a further increase in the public debt. The yield of the new tax levies was problematical and might possibly be considerably less than estimated and many classes of expenditures would apparently exceed estimates.

As placed before the Chamber and Senate finance committees on Oct. 12, 1926, the 1927 budget proposals showed estimated receipts of 39,960,000,000 francs, and expenditures of 39,383,000,000 francs, leaving a nominal surplus of 577,000,000 francs. The figures approved by the Chamber finance committee on November 5 showed a revenue of 39,059,000,000 francs and expenditures of 39,260,000,000 francs, leaving a surplus of 699,000,000 francs. Generally the bill was well received, as representing a more complete effort to face all expenditures and eliminate supplementary appropriations. Some misgivings were felt, nevertheless, over the lack of a definite forward-looking financial plan and of provisions for any possible crisis in the floating debt situation.

**SHIPPING.** The trade of the French commercial maritime ports during 1925, compared with 1924, was characterized by an increase in the gross tonnage of vessels arriving and departing, by a considerable decline in the tonnage of the merchandise discharged and a slight increase in tonnage loaded, and by a rather marked increase in the number of passengers embarked and disembarked.

**TRAFFIC OF FRENCH COMMERCIAL MARITIME PORTS**

<i>Classification</i>	<i>1924</i>	<i>1925</i>
<b>Arrivals:</b>		
Number of vessels .....	59,402	56,625
Gross tonnage .....	53,640,310	55,324,700
Tons of merchandise discharged .....	35,048,141	80,633,333
Number of passengers .....	1,605,818	1,663,778
<b>Departures:</b>		
Number of vessels .....	59,412	56,440
Gross tonnage .....	53,555,796	55,254,618
Tons of merchandise loaded .....	10,154,028	10,839,089
Number of passengers .....	1,530,708	1,738,651

The French merchant marine tonnage at the beginning of 1926 aggregated 3,350,000 as against 3,400,000 last year, according to a report by the Comité Central des Armateurs de France. The falling off is explained to a great extent by the gradual decline of the sailing fleet. During the year 80,000 tons of sailing vessels were demolished or sold abroad, 140,000 tons of steam vessels left the French flag, while 180,000 tons were added by purchase and construction.

**RAILWAYS.** The aggregate gross receipts of the principal French railways in 1925 were 1,028,806,000 francs higher than in 1924, but as rates increased considerably during the period under consideration the gain was not indicative of increased profit. In March, 1924, passenger fares were raised by almost 50 per cent and freight rates by 12.5 per cent; in March, 1925, internal freight rates were again increased by 3.45 per cent.

<i>Railway</i>	<i>Kilometers in operation</i>	<i>Gross receipts in thousand francs*</i>		<i>Gain in 1925</i>	
		<i>1924</i>	<i>1925</i>	<i>Thousand francs</i>	<i>Per cent</i>
État .....	9,064	1,285,994	1,442,093	156,099	12.04
Paris-Lyons-Méditerranée .....	9,781	2,350,798	2,715,850	365,052	15.52
Nord .....	3,880	1,420,267	1,566,840	146,073	10.28
Orléans .....	7,479	1,160,405	1,308,517	148,112	12.76
Est .....	5,027	1,252,200	1,338,997	86,797	6.93
Midi .....	4,233	535,658	618,406	77,748	13.51
Alsace-Lorraine .....	2,266	735,551	784,476	48,925	6.51
<b>Total .....</b>	<b>41,680</b>	<b>8,740,873</b>	<b>9,769,679</b>	<b>1,028,806</b>	<b>11.64</b>

\* The franc exchange rate for 1925 averaged 4.77 cents.

The operating deficit of these railways in 1925 was estimated at 700,000,000 francs. This figure was further increased by 215,000,000 francs, representing capital charges for the payment of interest on foreign loans in the currency of the creditor nations.

In November, 1926, the United States Bureau of Foreign and Domestic Commerce reported that the electrification of the Paris-Orleans railroad line was progressing steadily. On October 6, ten passenger trains were driven by electric power between Paris and Les Aubrais, a distance of 123 kilometers. Before the end of 1926, electric traffic was to be complete as far as Vierzon, and the power for the route to this point was to be supplied by the hydroelectric plant of Eguzon, representing a total installed power of 50,000 kilowatts. The electrification programme of the Paris-Orleans line included the Paris-Brives section of the Paris-Toulouse line and the two transverse lines, St. Sulpice-Gannat and Brives-Clermont.

**ARMY.** The army is divided into two forces, the metropolitan and colonial, both under the war ministry. There are three divisions of the metropolitan forces: The active army, reserves, and territorial army. The active metropolitan army on a peace basis in 1925 numbered 419,176, inclusive of an air force of 32,886. Service in this army is compulsory but liberal exemptions are allowed. Enlistments are regulated by the law of April 1, 1923. In November, 1924, a plan was adopted to reduce the service in the active army to one year, but it was not put in force during 1925. The colonial army is distinct from the metropolitan army and is made up partly of white troops and partly of colored troops. In 1925 the white troops numbered 43,276, the Foreign Legion numbered 10,000, and the colored troops, 212,597, making with the metropolitan army a total peace strength of 684,039. The reserves and the territorial army are divided into units corresponding to those of the active metropolitan army. The gendarmerie, a police force recruited from the army but concerned with civil functions, numbered 21,700 in 1925, about half of whom were mounted. See **MILITARY PROGRESS.**

**NAVY.** For an account of naval conditions in France see **NAVAL PROGRESS.**

**GOVERNMENT.** Under the French constitution, the president is the executive, assisted by a cabinet responsible to the Chamber. The legislative power is vested in a parliament or National Assembly, composed of a Senate and a Chamber of Deputies. The president, elected by the National Assembly by an absolute majority of vote for seven years, chooses his own cabinet; ordinarily, but not of necessity, selecting from among the members of the two chambers. The Senate is made up of 314 members aged not less than forty years, and elected by delegates for nine years; the Chamber of Deputies is made up of 580 members elected by direct popular vote for four years.

The president of the republic at the beginning of 1926, was Gaston Doumergue, elected June 13, 1924. The ministry appointed Mar. 10, 1926, was made up as follows: Prime Minister and Minister of Foreign Affairs, Aristide Briand; Justice, Pierre Laval; Interior, M. Malvy; War, Paul Painlevé; Marine, Georges Leygues; Finance, Raoul Péret; Colonies, Léon Perrier; Public Instruction and Fine Arts, M. Lamour-

eux; Public Works, M. de Monzie; Commerce, M. Daniel-Vincent; Agriculture, M. Jean Durand; Labor, etc., M. Durafour; Pensions, Paul Jourdain. For the political makeup of the Senate and Chamber of Deputies consult preceding **YEAR BOOK.**

## HISTORY

**SITUATION AT THE BEGINNING OF THE YEAR.** The year opened with Premier Briand in a death struggle with the six radical members of his cabinet over the financial proposals of Paul Doumer, who had succeeded M. Loucheur as Minister of Finance towards the end of 1925. Premier Briand stated that he stood firmly behind the Doumer programme and the radical members of the cabinet could either accept them or resign, in which case he would organize a new ministry with the aid of the Right Centre and would keep Doumer in the cabinet. His energetic tactics won the day for him and the radicals decided to remain in the cabinet and not attempt to support the Herriot-Blum scheme of balancing the budget, which these leaders had been working upon during December, 1925.

After the adjournment of the cabinet meeting, the following announcement was made: M. Paul Doumer submitted to his colleagues the final text of his proposals. He declared his intention to submit shortly to the Chamber a project of reform of direct taxation conformable to democratic principles. These projects, however, cannot be immediately voted and applied so as to bring in revenue during the early part of 1926. And furthermore, it seems to the Minister of Finance that the increase in direct taxation voted Dec. 4, 1925, was so heavy that a further increase during 1926 is inadvisable. In these circumstances M. Doumer proposes to meet all the budget charges, the immediate needs of the Treasury, repayment of Bank of France advances and the creation of a sinking fund for amortization of the floating debt by the following measures: By further economies and improvement of tax collection by measures against fraud; by the creation of a tax on exports; by a tax on Bourse operations; by an increase in the price of tobacco; and an exceptional temporary tax on payments, the manner of the collection of which will be established by decree. Although M. Briand was successful in his cabinet skirmish, the strength of M. Herriot was further revealed when on January 12 he was reelected president of the Chamber.

Although Briand won over his cabinet to the Doumer financial scheme he was not as successful in the Chamber, where the committee on finance rejected the government measure and debated the project of accepting that of the Radicals. Theoretically Briand should have resigned at this point or at least ask for the resignation of Doumer but he did neither. Instead he submitted both finance plans to the Chamber without recommendations for either one. The debate on the two measures began on January 26 and both sides attacked the plan of the other with force and vigor. The speeches in favor of the Radical plan were all of the same tenor, i.e., make the rich pay their proportional share of the taxation and thus increase the revenues of the country. Doumer defended his plan on January 29 but failed to make much headway. After a debate of more than two weeks, the financial muddle was no nearer settlement than when the

debate began. On February 9 Premier Briand appeared before the Chamber and gave it one more week in which to take definite action one way or the other. If nothing was done at the expiration of that time he threatened resignation. Nothing practical resulted from this exhortation although Premier Briand forced a vote of confidence on February 12, on a minor portion of the finance bill, hinting that a dictatorship might follow his resignation. He won the vote of confidence by 327 to 182.

**RESIGNATION OF BRIAND.** After an all-night session of the Chamber, Premier Briand and his cabinet resigned on March 6. Of course the reason was the failure to solve the financial problems facing the government, particularly the declining franc, and the need of balancing the budget. The resignation followed a vote of 273 to 221 against a vote of confidence in the ministry over a question of the finance bill. On February 16 the Chamber had passed a tax bill which provided for only 1,600,000,000 francs instead of the 4,500,000,000 needed to balance the expenditures with the revenues. This bill as passed was neither the Doumer bill nor the Radical bill discussed above. On March 9, Briand, after declaring that he would not attempt to form another ministry, did that very thing, largely because he was more interested in the events at Geneva, for the time being, than he was in the internal conditions of his fatherland. For a discussion of the Locarno Pact and other international peace movements, see articles on LEAGUE OF NATIONS and PEACE AND PEACE MOVEMENTS.

This was the ninth ministry of France that Briand had headed and it must be said that it was one of the weakest, built as it was on a very precarious majority in the Chamber. It was reported that Caillaux had been offered the finance post but had rejected it because he felt that the finance minister should be the head of the cabinet. Instead of Caillaux, Raoul Peret became Minister of Finance, Louis Malvy, Minister of the Interior, Pierre Laval, Minister of Justice and Lucien Lamoureux, Minister of Education. The selection of Peret was not satisfactory to any of the Socialists and only to some of the members of the Radical-Socialists and the Right. Malvy was more or less of an enigma, no one knowing just where he stood politically and the Nationalists were particularly incensed because they blamed him for the Chemin des Dames holocaust in 1917.

The very first time the new cabinet met with the Chamber (March 18) it faced a crisis, but was rather unfortunately saved from defeat at the time by the fainting of Malvy at the conclusion of a bitter attack made on him by a Conservative deputy. The chief item in Peret's financial plan was a turnover tax, which was finally passed after almost an entire day and night of debate. The optimists thought enough money would be provided in this way to balance the budget. On the next day the import tariffs were raised 30 per cent horizontally on everything except paper pulp, wheat, sugar, coffee, cocoa, and parts of agricultural machinery.

The budget bill was finally passed on by the Chamber and the Senate on April 29. According to the figures of the budget the revenue was estimated at 37,535,000,000 francs and the expenditure at 37,287,000 francs, leaving therefore an estimated surplus of 248,000,000 francs. The service on the internal debt accounted for 58

per cent of this sum and the military 17 per cent. The paper balancing of the budget did nothing to stem the tide of the declining franc, many observers declaring that the balancing of the budget was only temporary and did nothing to remove the basic causes for the fluctuation of the franc. Caillaux pointed out that if the franc continued to fall, the budget would very shortly be unbalanced and he declared that France had not yet recovered her financial equilibrium and that if "the Chamber indulges in any of the political gymnastics by which it has distinguished itself in the last seven months the effect will be serious on the international value of the franc." In order to help the franc there was a movement on foot to collect subscriptions from wealthy persons and others who desired to contribute to help build up a sinking fund. Several millions of francs were gathered in this manner.

**THE MALVY AFFAIR.** As stated above Malvy was accused by the Conservatives in the Chamber of being responsible for the Chemin des Dames debacle of 1917, which came about largely as a result of the information the Germans had obtained concerning the offensive from a spy in French service. The whole affair revolved around Mata Hari, who was executed in October, 1918, because of espionage. She had letters in her possession written by a man in the French government whose name began with M and ended with Y. The natural assumption was that that man was Malvy and therefore he was responsible for the sad affair at Chemin des Dames. The charge against Malvy was never proved or disproved, but the mere fact that it was connected with his name was sufficient in the minds of many to make him guilty. As noted before Malvy suffered a breakdown in the Chamber as a result of the pressing of this charge against him by a Conservative member, from which he failed to recover and which caused his resignation from the cabinet. On April 19 a letter was published from Gen. Adolph Messimy stating that he was the author of the letters to Mata Hari and not Malvy. This served to clear the name of Malvy once and for all time in the minds of the French public.

**THE FALLING FRANC.** In the middle of May the franc had fallen to 36.17 to the dollar. On May 19, President Doumergue, Finance Minister Peret, and the directors of the Bank of France met to discuss the situation freely, and it was agreed to "use immediately, for the defense of the franc, all the resources of which public credit can dispose." Obviously the attempt was to be made to float a foreign loan, but efforts along this line were unavailable because the international bankers were chary of loaning money to France unless such action were preceded by drastic financial and monetary reforms, the chief of which was the stabilization of the currency. The only thing left was the so-called Morgan loan of \$100,000,000 which had been negotiated some time previously. Part of this was thrown into the breach and the franc made a temporary recovery. On May 29 Briand announced to the Chamber that the government had decided to exclude all other questions and concentrate all its activities to the saving of the franc. For this reason it appointed a committee of experts "to supervise the movement of the market and suggest all decisions useful to the defense of the national money." Despite these assurances the position of Briand and Peret was becoming more

and more precarious because of the demands by the Socialists and Radicals that France divorce herself from foreign bankers and try to settle her difficulties by herself. This attitude reflects the resentment in certain quarters in France at the failure to obtain foreign loans from British and American bankers due to financial instability within France itself.

**BRIAND'S TENTH MINISTRY.** The financial question again engulfed Aristide Briand and his ninth cabinet on June 15, when he handed his resignation to President Doumergue. The difficulty this time appeared to be between Peret and the Bank of France. The former wished to use the latter's gold reserve to stabilize the franc while the bank would not agree unless the franc were stabilized at a rate of twenty to the dollar. Briand evidently resigned in the hopes that he could form a "National Union" ministry comprising all parties, and one with absolute power to handle the financial situation without the interference of the Chamber. Poincaré was willing to join such a coalition cabinet if the government was given unlimited powers. The success of such a move depended upon former Premier Herriot, who said he would accept if M. Marin, the Nationalist leader, were not a member of it and if no undue powers were granted to the cabinet. This stand caused Briand to tell the president that he could not form a cabinet, whereupon President Doumergue asked Herriot to form one. Briand and Poincaré refused to join Herriot's cabinet and the Socialists said they would not cooperate unless he came out absolutely for a capital levy. Herriot was therefore compelled to give up the task of forming a ministry and it was again assigned to Briand. Poincaré's refusal to join the cabinet weakened Briand's position to a considerable extent, but nevertheless Briand formed his tenth cabinet on June 23 with the following members: Premier, A. Briand; Finance, Joseph Caillaux; Justice, Paul Laval; Interior, Jean Durand; War, General Guillaumat; Marine, Georges Leygues; Education, Bertrand Nagore; Public Works, Daniel Vincent; Agriculture, M. Binet; Commerce, Fernand Chapsal; Colonies, Leon Perrier; Labor, Jean Durafor; Pensions, Paul Jourdain. The new cabinet was not particularly well received, and differed from the former one chiefly in the person of Joseph Caillaux, who was looked upon as sort of a Moses to lead France out of the wilderness of financial distress. His first move was to demand stringent national economies and his second was to bring about a closer relationship between the government and the Bank of France.

Generally speaking the new policy of Briand and Caillaux revolved around the ratification of the American and British debts and the stabilization of the franc. Caillaux stated that the only way out was to establish foreign credit and the only way to do that was to make arrangement for the payment of outstanding loans and the establishment of financial security at home. He was sustained by a vote in the Chamber when he opposed outright the capital levy which was continually brought forward by the Socialists.

**THE RETURN OF POINCARÉ TO POWER.** On July 17, Briand and Caillaux presented to the Chamber a measure which would give the cabinet unlimited power to deal with the financial situation. That such power was imperative was indicated by the fact that the franc reached the low level of 42.49 to the dollar on July 16. The

Chamber by a vote of 288 to 243 refused the power desired by Briand and Caillaux, and there was nothing else for Briand to do but resign. Herriot and Marin voted against the measure, the former because he thought the financial question was one for the Chamber to decide and the latter because he was unwilling to place such important power in the hands of Caillaux. Two days after Briand's resignation Herriot succeeded in forming a ministry, with Anatole de Monzie as the Minister of Finance. The franc continued to fall and when Herriot met the Chamber and presented a capital levy, disguised in vague terms, he was defeated by a vote of 290 to 237. President Doumergue thereupon called upon Poincaré to form a coalition or National Union ministry. Ordinarily the task would be a hard one, but the financial situation was so pressing that political differences were forgotten for the time being and a cabinet was formed. The franc had reached its lowest level—almost 50 to the dollar—and it was necessary to use the remainder of the Morgan loan to meet the government's expenses for August.

The Poincaré government which took office on July 23 had six former premiers among its members. Premier, M. Poincaré; Foreign Affairs, Aristide Briand; Justice, Louis Barthou; War, Paul Painlevé; Marine, Georges Leygues; Education, Edouard Herriot; Labor, André Fallières; Interior, Albert Sarraut; Public Works, André Tardieu; Commerce, Maurice Bokanowski; Agriculture, André Queuille; Colonies, Francis Leon-Perrier; Pensions, Louis Marin. The appointment of this cabinet was well received in the Chamber by all parties except the Socialists and Communists and had an immediately salutary effect on the franc. By August 3 the premier had succeeded in rushing through both houses a tax bill which would provide 2,500,000,000 francs additional revenue in 1926 and 9,000,000,000 more in 1927. The increases came mainly from taxes on imports, railroad and motor transportation, and heavy increases in the taxes on foreign investments and direct inheritances. A few days later measures were passed to provide for a sinking fund of 49,000,000,000 francs in short-term bonds and authorizing the Bank of France to purchase coin in the public market for the backing of future note issues if the backing of future note issues if necessary.

Premier Poincaré made it clear that the question of the ratification of the American debt settlement would not come up for action during the remainder of 1926. Parliament adjourned on August 11 and left the cabinet to solve its difficulties as best it could. The press stated that Poincaré if he failed, could not blame parliament because it had ungrudgingly passed whatever measures he placed before it. The days of 1914-1918 were recalled when the government put into effect certain restrictions concerning bread and other foodstuffs consumed by the people. The first acts of the Poincaré government brought almost immediate results when measured by the rapid rise of the franc, the increase in taxes collected, and the export surplus for the months of July and August.

**SITUATION AT THE END OF THE YEAR.** On November 12, the Chamber of Deputies reassembled and one of its first acts was to give the Poincaré government a vote of confidence (365 to 207), although the Radical-Socialists and Nationalists nearly caused a cabinet crisis by at-



*Brown Brothers*

PRESIDENT DOUMERGUE OF FRANCE WITH THE CABINET FORMED BY PREMIER POINCARÉ

LEFT TO RIGHT: FRONT ROW—BRIAND, POINCARÉ, PRESIDENT DOUMERGUE, BARTHOU, AND MARIN; SECOND ROW—HERRIOTT, PAINLEVÉ, AND



tacks on the government. M. Marin, in particular, although a member of the cabinet which contained four leaders of the Radical-Socialists, bitterly denounced this group and called them impotent when in power and dangerous when out. Premier Poincaré was compelled to go before the Chamber and publicly disavow this statement of his minister of pensions, by stating that it was the talk of a private person and not of a member of the cabinet. Despite the vote of confidence in the government there were mutterings on all sides as to why the premier had not stabilized the franc, which was the only reason why he was placed in office with such extraordinary powers. Poincaré paid no heed to these mutterings and refused to state what the government intended to do with regard to stabilization, although he said that he had a plan which would be announced at the proper moment. He counseled delay and pointed to the steadily rising franc as evidence of the wisdom of that counsel.

**RELATIONS WITH ITALY.** During the last two months of the year relations with Italy were severely strained because of the so-called Garibaldi affair and the propaganda on the part of the Fascists for the return of Savoy to Italy. Colonel Ricciotti Garibaldi was arrested on November 4 at Nice on the charge of being in the employ of the Fascist government to foment anti-Fascist movements in France. As a result of his arrest and imprisonment, Federzoni, the Italian Minister of the Interior, resigned. Despite Garibaldi's denial it was conclusively proved that he was employed by the Italian government to stir up anti-Fascist propaganda so that it could be discovered by the Italian government and put down with great gusto.

**PEACE EFFORTS.** A most encouraging outlook is obtained by going over France's peace work accomplished by M. Briand during 1926. On March 2 and June 4, respectively, the Chamber and Senate ratified the Locarno agreements. Later Germany with the consent of France was admitted into the League of Nations; France and Germany signed their first commercial treaty since the war; Briand for France and Stresemann met at Thoiry on September 18 to discuss the possibility of a Franco-German rapprochement; Von Hoesch, the German Ambassador, subsequent to the Thoiry interview, continued the good work with Briand. A further vote for peace was cast by France when Minister of War Painlevé's plans for cutting down the army were approved. With the Franco-Spanish defeat of Abd-el-Krim came peace in French Morocco, and French efforts in Syria during 1926 had practically succeeded in reestablishing quiet among the troublesome Druses.

Even commercial peace was celebrated by the signing of the Franco-German accord which resulted in the creation of the air line between Paris and Berlin and vice versa, and the accord concerning the "European Steel Cartel" was the result of an agreement between France, Germany, Belgium, and the Grand Duchy of Luxembourg.

Consult articles on LEAGUE OF NATIONS; PEACE AND PEACE MOVEMENTS; MILITARY PROGRESS; NAVAL PROGRESS; DAWES PLAN; SOCIALISM.

**FREE BAPTISTS.** See BAPTISTS, FREE.

**FRENCH CONGO.** See FRENCH EQUATORIAL AFRICA.

**FRENCH EQUATORIAL AFRICA.** A French possession in Africa on the Atlantic coast between the territories of the Belgian Congo and British Kamerun; comprising the region formerly known as the French Congo; stretching northward to the Bahr-el-Ghazel and Lake Chad, and bounded by the Congo and Ubangi Rivers in the interior. Area, 982,049 square miles; population, according to the census of 1921, 2,845,936, of whom 2932 were Europeans. Including the Kamerun territories the area is 1,048,538 square miles and the population, 4,345,936. The possession comprises the four colonies of Gabun, Middle Congo, Ubangi-Shari, and Chad. The Kamerun territories were ceded to Germany by France, in return for recognition of the French protectorate in Morocco. They were restored to France by the Treaty of Versailles in June, 1919. The boundary between French Equatorial Africa and the Anglo-Egyptian Sudan was fixed by an agreement signed Feb. 28, 1924.

Equatorial Africa is very rich in natural resources, but for the most part they are undeveloped. There are about 30,000 square miles of tropical forests extending to the Gabun coast containing many species of valuable timber. Palm oil and wild caoutchouc are the principal commercial products. Coffee is raised to some extent. Livestock includes cattle, sheep, camels, horses, asses, and ostriches. Copper, zinc, and lead are to be found. The total imports in 1924 were valued at 47,020,355 francs and the total exports at 44,216,246 francs. In 1925 the general budget for the four colonies balanced at 21,255,845 francs. The revenues are made up of import, export, and excise duties, navigation fees, and certain semi-direct taxes. The colonies are under a governor-general whose headquarters are at Brazzaville, but each colony is locally governed by a lieutenant-governor, aided by an administrative council. Governor-General, at the beginning of 1926, R. Antonetti, appointed 1924.

**FRENCH GUIANA, gé-i'na.** A French colony used also as a penal settlement, on the northeast coast of South America. Area, about 34,740 square miles; population at the census of 1921, 44,202. Cayenne, a seaport town, is the capital with a population in 1921 of 10,146. The population figures do not include the number in the penal settlement of Maroni, the floating population of miners, French officials, or native tribes. The latest available education statistics showed a school population of 2720, exclusive of Maroni, which had 208. The extensive forests are rich in timber of commercial importance. Although agriculture is not engaged in on a large scale the following products are raised: Cacao, coffee, gutta percha, indigo, maize, manioc, rice, sugar cane, and tobacco. The chief occupation is placer mining for gold. Other minerals produced are silver, iron, and phosphates. The total imports in 1924 amounted to 43,600,000 paper francs and the total exports to 42,200,000 francs. The chief articles of export were gold, rosewood, essence, various timbers, phosphates, cacao, balata, and hides. The budget, which amounts to approximately 7,000,000 francs annually, must be partly met by subsidies from the home government. The colony is under a governor, who is aided by a privy council and by a council-general elected by French citizens in Guiana, and is represented in the French parliament by one deputy.

**FRENCH GUINEA.** A French colony on the west coast of Africa between Portuguese Guinea and the colony of Sierra Leone. Area, about 89,436 square miles; population, estimated in 1924, 2,026,321, including 1885 Europeans, of whom 1083 were French. Capital, Conakry. The chief products are palm oil, palm nuts, gum, rubber, millet, rice, and coffee; experiments have been made in the cultivation of bananas, pineapples, rubber trees, etc. The last livestock census showed 430,000 cattle, 76,718 sheep, 103,817 goats, 2600 horses, and 500 asses. Some gold is found in the colony. The imports in 1924 were valued at 68,804,834 francs and the exports at 38,685,775. The chief exports were: Rubber, cattle, ground nuts, hides, wax, wool, and palm-kernels. In 1923, 337 vessels entered and 327 cleared. The budget for 1924 amounted to 16,075,237 francs. The colony is under the governor-general of French West Africa (q.v.).

**FRENCH INDIA.** The name given to the group of French dependencies in India, of which the chief is Pondichéry. The area of the five colonies is about 196 square miles and the collective population in 1924 was estimated at 277,516. The five dependencies with their estimated populations in that year are as follows: Pondichéry, 177,483; Karikal, 56,922; Chandernagor, 26,941; Mahé, 11,455; and Yanaon, 4715. In 1924 the government maintained 61 primary schools and three colleges with 308 teachers and 10,305 pupils. In 1925 the budget balanced at 2,806,230 rupees. The chief crops are paddy, rice, sugar, cotton, manioc, cacao, coffee, and groundnuts. There are at Pondichéry three cotton mills and at Chandernagor one jute mill; the cotton mills have, in all, 1662 looms and 68,631 spindles, employing 7975 persons. The total imports for all the dependencies in 1924 amounted to 37,400,000 francs and the total exports to 44,300,000 francs. French India has 43 miles of railway. The dependencies are under a governor whose headquarters are at Pondichéry, and an elective general council; they send one deputy and one senator to the French parliament.

**FRENCH INDO-CHINA.** A region in south-eastern Asia, comprising the French colony of Cochin-China, and the protectorates of Annam, Cambodia, Tonking, and Laos, as well as Kwang-Chau-Wan, which has been leased from China, and the district around Battambang, which was ceded by Siam. Total area, about 274,385 square miles; population in 1924, 19,636,137, of whom 26,137 were Europeans (excluding military forces). The native Annamites constitute about three-fourths of the population. Capital, Hanoi, with a population of approximately 115,000. Other important cities are: Cholon, Bindinh, Saigon, Penom-Penh, Hué, Vien Tiane, and Haifong. The region of which Saigon is the centre is chiefly agricultural, being one of the greatest rice producing areas of the world, but fisheries along the coast and along the lakes are of some importance. Haifong is the centre of a region devoted to agriculture, mining, and manufacture. A third district around the port of Tourane produces chiefly cinnamon, sugar, and tea. In 1923 an irrigation system was completed reclaiming 45,000 acres on which two rice crops a year could be produced.

The mineral resources of French Indo-China include coal, zinc, tin, lignite, antimony, and wolfram. The forest reserves are very important

but suffer from inefficient exploitation. The import trade in 1924 was valued at 2,024,000,000 and the export trade at 2,233,500,000 francs, both of which represented important increases over the preceding year. The important increase in trade values in 1924 is attributable mainly to higher prices. Exports of rice, valued at 1,105,371,000 francs, represented a big advance over 1923. Other exports showing notable expansion were rubber, tea, wood, cement, zinc, and ores of tin and wolfram. For the first nine months of 1925 the imports from France were valued at 503,300,000 francs and the exports from the same country at 423,100,000. The general budget for 1925-26 was estimated at 77,606,000 piasters, 65,742,810 being for the ordinary budget and the remainder for the extraordinary budget. The total of the local budgets (for the component parts of French Indo-China) was 48,978,053 piasters. The combined budgets of Indo-China therefore amounted to about 136,000,000 piasters—from which must be deducted 7,890,000 piasters, the subvention allowed the local budgets from the general budget. Of the total for the general budget, 19,760,000 piasters are for public works, 1,100,000 piasters for education, and 291,400 for medical assistance. At the end of 1924 the total length of railway line was 1288, about two-thirds of which belonged to the government. Indo-China is under a governor-general and a superior council which acts through a permanent commission, and at the head of each state is a resident superior, with the exception of Cochin-China, which is directly under the home government. Governor-general at the beginning of 1926, Alexandre Varenne.

**FRENCH IVORY COAST.** See **IVORY COAST.**

**FRENCH LANGUAGE.** See **PHILOLOGY, MODERN.**

**FRENCH LITERATURE.** The year 1926 in French literature witnessed the continuation of some of the discussions started in 1925: The claims of Paul Valéry, the new member of the French Academy, to combine art with intellectual thought, scientific precision with æsthetic emotions (a little in the manner of Poe)—to which discussion he himself contributed in publishing a new edition of his poems *Charmes*, and his philosophical essays in *Variété*, in *Rhumbs*, and in *Le Serpent*. Then there was the discussion about "Poésie pure" started by Abbé Brémont (see **YEAR BOOK** for 1925), and which never diminished in alertness, as witnessed in numerous articles published by the two chief antagonists, Brémont and Paul Souday, in the *Revue littéraire* and in *Le Temps*, also in separate publications, especially Brémont's *Poésie; pure*, and *Prière et Poésie*; one of the last articles of the year was by Souday in the *New York Times Book Review*, of Dec. 19, 1926.

The most sensational episode of the revival of religious discussions among men of letters was the conversion of the wildest free lance, the young Jean Cocteau; the *Lettre* in which he explained his step to another convert of note, Jules Maritain, was published and widely discussed, as was also the answer by Maritain (publisher: Delamain). In this connection it is well to recall also that the most discussed novel of the year was also one centring around a religious problem, viz. Bernanos's *Sous le Soleil de Satan*. Still another continuation was that called "*La Crise de l'Action Française*"—that is to say, the split in the ranks of the so-called "camelots du



roi" of whom Ch. Maurras and L. Daudet were the chiefs; G. Valois took the lead of the dissenters and formed what has been assimilated to the Fascist Party in Italy. In connection with this sensational feud, Valois published *La Révolution nationale* (*Nouvelle librairie nat.*), and Dimier, *Vingt ans d'Action Française, et autres souvenirs*. It must be added that the Pope added to the confusion when he condemned his royalist supporters of the "Action Française."

The anarchy that seems to prevail in post-war literature induced Ernest Tisserand to send out a syllabus to the best known authorities about what he called "Les Maladies de la littérature actuelle"; the answers came out in the periodical *Les Marges*; the five diseases would be: The literary prizes; the advertising; the literary cliques (*boutiques littéraires*); intrigues of all sorts; use of the most abject vices to write sensational books. That the "enquête" was timely may be inferred from two facts pointing in two opposite directions; one of the worst scandals of immoral literature was brought about by the play *La Carcasse* (see under *Theatre*); and one of the most coveted Prix Littéraires, the "Prix Femina," went to an extremely charming and delicately idealistic novel, *Prodige du cœur*, by Charles Sylvestre—which may be a sign that in the novel at least some are beginning to feel tired of the eccentric, nerve-racking books.

POETRY. Poetry is always popular—with poets. Of this year's crop we need mention particularly only a few names: A posthumous volume of Verhaeren, *Chants en forme de dialogues*; then a new collection by Claudel, *Feuilles de Saints*, about real Catholic saints, like St. Louis, Ste. Cécile, Ste. Geneviève, and men who were "saints" at least to the poet, like Verlaine, Dumesnil; a volume by the "laboureur-poète," Philéas Lebesque, *Chansons de Margot* (coll. Hérissou), now sad or cheerful, now tender or bitter, but always quite unconventional. The Grand Prix de Poésie went to Jacques Noir (a tax-collector of Poitou) author of *Ames inquiètes, Malédictions*, and this year of *Heures profondes*; and M. Zamacois was awarded the Prix de Poésie for a poem on *La Tombe de Loti*. One ought to call attention to an edition of the *Œuvres poétiques* by Ch. Adolphe Cantacuzène (Perrin). Of the new innumerable collections of verses, one may quote—almost at random,—Emile Despax, *La maison des Glycines*, Pierre Gusman, *Les Heures dorées*, Noël Garnier, *Le mort mis en croix*, (Prix Catulle Mendès) and perhaps a little volume with many reminiscences of America, by Renée Jardin, *Nostalgies*.

People looking for interesting attempts to renew poetic inspiration will do well to follow the publications of the "Collection des poètes du Pigeonnier" (St. Félicien-en-Vivaraix); the presentation is quite worthwhile in itself, types, illustrations, etc.; two of the recent volumes are Fr. Angély's *La métairie de Jean d'Olagne suivie de Poèmes divers, et d'Équinoxe*, and Gabriel Faure, *Pages lyriques*. We ought to mention a new edition of the well known Walsh, *Anthologie des Poètes Français Contemporains*; also a new work; M. Tresch, *Evolution de la Chanson française savante et populaire*, vol. I, *Des Origines à la Révolution*. A word has been said above on the continuation of the "Querelle de la Poésie pure," started by Abbé Brémond, of the French Academy (see 1925 YEAR BOOK.)

THEATRE. The situation is not viewed with

much optimism by Dubech, perhaps the most influential critic of the stage in France to-day: "During the last theatrical season, a theatre specially founded for the young authors had to shut its doors very soon; the Vieux-Colombier is closed; the Atelier is half asleep; the Comédie des Champs Elysées is open only for the plays of M. Romains and his family. Pitoeff of the Théâtre des Arts complains about the scarcity of good French plays. The Comédie Française is not a laboratory for coming playwrights; just the other way, and perhaps it is well that it should be so. At the Odéon, Gémier, whose nomination as director had raised the highest expectations, has not given one good play or revealed one new author. . . . The private associations which had soon after the war called attention to good men like Bernard, Fauré-Frémiet, Farigot, have given nothing solid for two or three years. . . . All this is not very comforting. But after all society is in a bad way; it is not quite strange that literature should not be very healthy" (*Revue Universelle*, August). The facts bear out a good deal of that statement. Things are rather dull—or traditional, like the classic plays given in Carcassonne and in the arenas in southern France; the Théâtre populaire of Bus-sang giving the annual representations; Jacques Copeau continuing his "school" in Burgundy (*Les copiaux*). . . . One of the most alive theatrical organizations seems to have been this year again the "Compagnons de Notre-Dame," directed by H. Ghéon, and who give religious plays, this year chiefly Ghéon's *Bergère Germaine*, the story of a girl now an object of veneration in southern France, a martyr to the harsh treatment of a cruel stepmother. In connection with this attempt at a revival of the religious theatre, one must mention the book by the famous Gaston Baty, *Le masque et l'Encensoir, Introduction à une esthétique du Théâtre*; the author considers that only plays of the religious medieval type are fit for representation, while he excommunicates even Corneille, Racine and Molière. (Baty was for the last years the stage director of the "Salle des Champs Elysées," and his conversion was as little expected as that of Cocteau.)

The "scandal" of the *Carcasse*, the play by Denys Amiel and André Obey, offered at the Théâtre Français, was the most sensational episode of the year. It depicted the unsavory affairs of a general in the French army and of his family, and Prime Minister Briand brought the affair before the French Chambers considering it an unpatriotic play, and thus forcing the Théâtre Français to withdraw it.

Of the older playwrights that offered plays we mention especially Maeterlinck with an unpublished *La puissance des morts*; Lucien Descaves in *Le cœur ébloui*, in which he shows the awakening of the emotions of love in young men, students in the Latin Quarter; Brioux gave a long bourgeois play in his usual vein—*La famille Lavclotte*, a sort of 20th century Benoiton family; François de Curel, *Le viveur et le moribond*, a powerful picture of a man who had been a fine officer during the war, and became a total moral wreck in after war conditions. Bernstein's *Félix* betrays the old time lover of violent drama with however a new note, that of real pity for the victims of human passion, greed and egoism. Paul Fort has another of his historical plays, *Les Compagnons du Roi Louis*. Croisset et Flers

have their usual success with a fancy play, *Le Docteur Miracle*—who has found the secret of living a thousand years, and the authors imagine the consequences; the same authors score in the operetta, *Le Diable à Paris*. For several years Jules Romains had been quite fortunate in his stage ventures, especially *Knock*; his *Dictateur*, in which we see a former socialistic leader turned into an autocrat of the worse sort simply because he was now in a position to command, proved rather disappointing to the public. Another play, at the end of the year, shows Romains apparently turning away from his "unanimism," or mob psychology; his *Jean de Maufranc* feels horror for everything that reminds of association with fellow men, in public or in private life.

It was one of the younger authors who carried away the greatest praise, Bourdet, with *La Prisonnière*; in Paris as in New York where it had a long run too (under the title *The Captive*) it was felt that here was a clear case when a delicate and unsavory subject, Lesbianism, had been treated without the slightest attempt on the part of the author to coin money by sensational appeal to low instincts, but when earnest art had rendered the terrible acceptable as it had so often in the classical tragedy of the Greeks.

Fairly but not fully successful were other men of the younger generation: J. Bernard, of the "école du silence" in *Ames en peine* has two lovers who during the whole play do not say a word to each other while the play has that love as its theme; entirely in keeping with his method is the dramatization by the same author of the supposed story behind the well known romantic *Sonnet d'Arvers*—the never revealed love of d'Arvers for Marie Menessier-Nodier. Jean Sarmant offered *As-tu du cœur?* Maurice Rostand, *La désertreuse*, a woman who deserts the poet she loves and who loves him because he needs drama in his life to make literature. Nozière scored with *Notre amour* at the Antoine theatre; Ch. Méré strikes once more the pathetic and realistic note with *Le lit nuptial*; Edm. Guiraud reforms a young snob in *Bonhomme du jour* (Odéon). Jacques Deval is very witty in *Dans sa candeur naïve*; J. V. Pellerin has a terrible satire on the bourgeois in *Têtes de rechange*; Jean Cocteau has a "pitrieries" on the story of *Orphée*. Jean Gaudement et Camille Cé publish four *Parces*. Sacha Guitry made another hit with a biographical sketch, his *Mozart*, repeated with great success in New York by Guitry himself and his wife Yvonne Printemps.

Among the most successful "reprises": Verneuil et Berr, *Azaïs*; Bataille, *L'animateur*; P. Wolf, *Secret de Polichinelle*; Kistemakers, *Les flambeaux*; Ancy, *La Dupe*.

Perhaps it might be worthwhile to mention here the memoirs of his youth that Maurice Donnay published under the title *Autour du Chat noir*. As a sort of short guide to the most recent playwrights in France the article by M. Wexner, *Le jeune Théâtre* (*Revue Mondiale*, May) will prove of interest.

NOVELS. The Grand Prix du roman went to Mauriac's *Désert de l'amour*, published in 1925; The Prix Goncourt went to Henry Deberly, for *Le supplice de Phédre*, a modern story raising the same problem as Racine's famous play (Deberly published the same year another story of human suffering, *Panloche*, a man condemned unjustly, then rehabilitated by law but whom

society refused to accept again in its fold): the Prix Femina went to a charming and touching story of love for an adopted child, *Prodige du cœur*, by Charles Silvestre (author also recently of *Cœurs paysans*). What is called the Prix Femina Anglais went to Marion Gilbert, for *Le Joug*. Prix de la Société des gens de lettres: Léon Lemonnier, *L'amour interdit*. Grand Prix d'Algérie: Gabriel Audisio, *Trois hommes et un minaret*. Prix Renaissance: Em. Zavie, *La maison des trois fiancées* (in after-war Russia). Prix des romanciers: Mme. M. Baulu, *Boulle et sa fille*.

Novels whose authors' names are sufficient guarantee of quality: Marcel Proust, *Albertine*, (the last of his manuscripts); A. Gide's *Les faux monnayeurs* (like Proust, Gide is more interested in abnormal humanity, which now goes so far that it seems to reveal the sad effect of war spirit on a senile mind); Colette, *La mort de Chéri*; Romain Rolland, *Pâques fleuries*, and *Mère et fils*, which is the first volume of a longer novel; Marg. Audoux, *De la ville au moulin*; J. H. Rosny, *Courtisane triomphante* and *Une jeune fille à la page*; Jacques Roujon, *Un homme si riche* (psychology of the parvenu, reminds one of Mirbeau's *Le chat*); Alex. Arnoud, *Le chiffon*; Elisa Rhais, *Mariage de Hanifa*; H. de Régner, *L'Escapade*; Louis Hémon, *Battling Malone*, *Pugiliste*.

Let us now take authors less known perhaps, but who were conspicuous in 1926: Easily the most widely discussed novel of the year was *Sous le soleil de Satan*, by a practically unknown writer, Georges Bernanos; it is the story of a priest who is possessed with the idea that he has a mission to fulfill among men, but often is at a loss to understand whether some of his actions are inspired by God, or whether he is misled by the Devil; there is even an apparition in flesh of Satan. Perhaps the present mental attitude of the reading public may have made part of the success—some trying to find in this mysticism a counterpart to the frequently morbid and low dispositions of present day thought (Proust, Gide, etc). At any rate the religious novel is no longer a rare phenomenon; see E. Bauman, *Le signe sur la main*; Louis Artus, *La chercheuse d'amour*; C. Mayran, *Hirc*. Not infrequently, moreover, is the religious note touched upon in novels that deal with the psychology of the present-day youth, the men of tomorrow.

Abnormal after-war conditions continued to solicit the attention; see among the excellent books, Bourget *Le danseur mondain*; Duhamel, *Pierre d'Horeb* (a young student of medicine); Blaise Cendrars, *Moravagine*; Gaston Rageot, *Vocation de Jean Douce*; Henri Pourrat, *Le mauvais garçon*; Jean Violliis, *L'oiseau bleu s'est endormi*; Jean Blade, *Le goeland*; Lucie Delarue-Madrus, *La graine au vent* (a girl); and last but not least, André Maurois's *Bernard Quesnay*; Fr. Mauriac's *La robe prête-à-porter*; and André Lamandé, *Les enfants du siècle*. Eccentric as one could expect it from a former Dadaist is *En joue*, by Philippe Soupault. Some novels have more decidedly the war as a background: R. Bazin, *Baltus le Lorrain*, H. Lenormand, *L'armée secrète* (spies during the war); Roland Dorgelès, *Partir*, travel adventures after the war with a love story interwoven; two are placed in Russia, Em. Zavie's *La maison des trois fiancées*, and Larrouy, *Leurs petites majestés*.

Quite a number of novels were about political conditions: a sharp satire on the League of Nations in Geneva is found in Marcel Rouff, *Sur le quai Wilson*. But the "political novel" attracting most attention was Giraudoux's *Bella* (with, it is rumored, Poincaré and Berthelot as central figures); see also Jacques Sindral's (pseudonym for Fabre-Luce) *La Victoire Mars*, (the hero of which is supposed to be Viviani); P. Dominique, *Le mercenaire*; M. Duplay, *La femme de César*; Lombard's *Le remords*, other "romans à clefs." Having no connection with the war, but of political significance, are two lighter satires: Thierry Sandre, *Panouille*; and R. Escholier, *Quand on conspire* (at the time of the coup d'état of Louis Bonaparte); while two others are of the sad, even gloomy type: M. A. Leblond, *Les Martyrs de la République*, and M. Betz, *Le démon impur*. Some other topics treated in novels are "movie" stars. René Clair, *Adams*, cinematographic impressions, dedicated to Ch. Chaplin; Abel Hermant's *Les Marionnettes* seems to contain a satire on little Coogan. Henry Bordeaux chooses the mountains as a background for his story *Jeux dangereux*; so does Ramuz, the Swiss author, in his new story *La grande peur dans la montagne*.

The sport novel par excellence this year was by H. de Montherlant, a young priest now very famous, who offers an enthusiastic defense of the bull fights in Spain, at the same time expressing his contempt for love, in *Le Bestiaire*. Pierre Benoit in his yearly novel *Alberte* tells the story of a mother who steals love away from her daughter (theme of Maupassant's *Fort comme la mort*); and a young American living in France, Julien (Green, attracted a great deal of attention by his story *Mont-Cinère* which tells of the hatred of a young girl for her avaricious mother. On the other hand the story of fatherly selfishness is told in the book bearing the cruelly ironical title *L'allée heureuse*, by Martial Picchaud (Prix Paul Flat). Henri Béraud, *Bois du templeier perdu*, is a striking tale of a town in Dauphinois from the 14th century to the time of the French Revolution. Edmond Jaloux, in *L'Âge d'or*, tells of the disappearance of the joys of the heart in the whirlwind of modern society. Light also and delicate but with a much more detached psychology is Fr. de Miomandre's *L'Amour de Mlle. Duvernier*.

Some originality is shown in Jacques Dieterlen's *Le roman de la cathédrale* (Strasbourg); by René Weck, in the historical *Le roi Théodore, roman corse*; by J. Kessel in *Les captifs* (captive of an illness, he revolts, decides to get out of life what he can anyway, and is disappointed, having missed his chance to make life worth while in suffering nobly); in J. Cassou, *Harmonies Viennoises* (the Vienna of 1827), by Emile Henriot in *L'enfant perdu* (God offers him a chance to live his life again, and he makes all over again the same mistakes); by Pierre Lasserre in *Le secret d'Abélard*; and by A. t'Stertevens in *Béni I, roi de Paris* (what Paris would be under a Bolshevist régime). La Fouchardière is never melancholy in *Didi, Niquette et Cie*. Bourget, G. d'Houville, Duvernois and Benoit have given a continuation of their *Roman des Quatre* (1924) in *Micheline et l'Amour*. A story in Languedocian patois, *La Bête du Vacarès*, by Joseph d'Arbaud, with French on the facing page, has been quite widely read; it deals with some mythological being,

a centaur, who is supposed to haunt the hill-sides among the grazing cattle.

**SHORT STORIES.** A posthumous volume by M. Barrès, *Le mystère en plaine lumière* (the first story has a characteristic title for Barrès, *La sybille d'Auvergne*); also posthumous, two stories by Boylesse, *Les deux romanciers* (one said to be the arch-pessimist Mirbeau, the other the optimistic Feydeau); Edouard Estaunié, *Le silence dans la campagne* (containing *L'enfant aux mains de lumière*); H. Duvernois, *Servante and Morte la bête* (very dramatic); Barbusse, *Force* (three stories by the author who still holds out his message against society). One of the "best readers of the year" has been André Maurois's *Meïpe ou la Délivrance* (translated into English)—three real stories adapted to literature, the first dealing with Goethe. Pierre MacOrlan tells in his inimitable way two stories in *Marguerite de la nuit*. Gyp has a new collection, *Ces bons Normands*.

**VARIOUS ITEMS.** Fragments by Mallarmé have been published for the first time, under the title *Igitor*. Maeterlinck gave a volume parallel to his *Vie des Abeilles*, in *Les Termîtes*. In the collection "Nobles vies" (Plon) Clémenceau gave a striking appreciation of the life of *Démocratie*, in which it is very hard not to see allusions to his own personal political career and to the ungratefulness or blindness of even intelligent peoples who fail to recognize their really great leaders. *Madame Roland*, by Mme. Clémenceau-Jaquemaître is in the same collection. Barbusse has felt called to give his view on *Jésus*. Duhamel in his *Lettres au Patagon* gives suggestive views on various topics and always in his inimitable manner (orators, scholars, theatre, illness, amateurs, etc.) De la Fouchardière in his frank and clever way does the same thing in *Le Diable et le bénitier*. Delteil, who last year won the Prix Femina with his much discussed *Jeanne d'Arc*, gave a sort of realistic poem in prose called *Les Poilus* generally considered disappointing, but nevertheless containing great epic beauties.

Books of travel continue this year as last to enjoy considerable vogue; they are often signed by the best known men of letters. Thus H. Béraud (so successful last year with *Ce que j'ai vu à Moscou*) gives *Ce que j'ai vu à Berlin*; Paul Morand, *Rien que la terre*, experiences of travel; Dorgelès, *Sur la route mandarine* (China); Fr. de Croisset, *La féerie cingalaise*; H. Bordeaux, *Voyageurs d'Orient*; L. Werth, *Cochinchine*; G. de la Fouchardière, *A la recherche d'un Dieu* (impertinent but amusing imitation of Lamartine and Chateaubriand's accounts of travels in Egypt and Palestine), etc. Here we might place Pierre Benoit, *Le roi lépreux* (a history of the dynasty to which the world owes the famous palace of Angkor). And here also may be mentioned a book dealing with the attachment of French Canadians to the mother country, *Le bouchier canadien-français*, by Prof. L. B. Dalbis. Some books of autobiography of well known men of letters: *The Journal* of the late Jules Renard; Fr. Jammes, *La France poétique*; Fr. Mauriac, *Rencontre avec Pascal* (account of his conversion); Gabriel Faure, *Le bel été* (childhood in the Vallée de la Drôme). Some new volumes of the "Vies amoureuses," *Musset*, by Donnay; *Ronsard* by de Nolhac; *Cléopâtre*, by Miriam Harris. The book on the famous traveller La Pérouse, by Bellessort, at-

tracted much attention, as did Guy de Pourtales, *Vie de Franz Liszt*. Several volumes on monastic or saints' lives: E. Schneider, *Heures bénédictines*; Lucie Delarue-Madrus, *Ste. Thérèse de Lisieux*; E. Dermanghem, *La vie admirable et les révélations de Marie des Vallées*. "The Collection des quatre âges" contains already: *Enfance*, by Mme. Gérard d'Houville; *Jeunesse*, by Fr. Mauriac; *Âge mûr*, by Donnay; *Vieillesse*, by Lavedan. And the collection "Eloges" has added: *Eloge de la Gourmandise*, Vaudover; *du Désordre*, G. Bauer; *de la Paresse*, E. Marsan; *du snobisme*, J. Boulenger.

HISTORY OF LITERATURE AND CRITICISM. An original attempt was made to present, in the form of a sort of Plato dialogue, *Le retour d'Ozanam ou une histoire de la littérature française*, by André Thérive. Another work of a general nature is an *Anthologie du pastiche*, in 2 vols. by Defoux and Dufay. There is no remarkable work on medieval literature, but an edition of Commynes' *Mémoires* has been published. The XVIIIth century fares better: Huguet gives his long promised *Dictionnaire du XVIIIe siècle*; H. Guye has the second volume of his *Histoire de la poésie française au XVIIIe siècle*, Clément Marot et son école; Jean Prévost has a *Vie de Montaigne*.

In the seventeenth century we have: P. Kohler, *Autour de Molière*; Louis Dubech, *J. Racine politique*; André Hallays, *Les deux Perrault*; Massis, *Pascal*. Quite a revision of traditional opinions is contained in Emile Magne's *Madame de Lafayette en ménage*—it amounts to a severe arraignment of the authoress of the *Princesse de Clèves*. The tercentenary of Madame de Sévigné has inspired various volumes: Gérard-Gailly, *L'Enfance et la jeunesse heureuse de Mme. de S.*; H. Célarie, *Madame de S., sa famille, ses amis*; Genès-Pradel, *Mad. de S. dans le Bourbonnais*. For the XVIIIth century we have: Brunot, *Histoire de la langue Française*, Tome VII, *La propagation du français en France jusqu'à la fin de l'ancien régime*. Then vols. V. and VI of the *Correspondance générale de Rousseau*, *Annales Rousseau*, XVI, and V. Marguerite, *J. J. Rousseau et l'amour* (an attack, by the author of *La Garçonne*).

On poetry at the end of the eighteenth century; G. Kramer, *André Chénier et la poésie parnassienne* (Prix-Bodin, de l'Académie). An important work on Romanticism is L. Reynaud, *Le Romantisme, ses origines anglo-germaniques*. On the same period: Arbetet, *Stendhal épicier, ou les informations de Mélanie*; L. Barthou, *Le Général Hugo* (father of Victor); Pierre Flotte, *Alfred de Vigny*; George Sand, *Journal intime* (letters by G. Sand, publ. by Aurora Sand); Ch. Léger, *L'Ère de Balzac* (Mme. Hanska once more attacked); J. M. Carré, *Michélet et son temps*; Jacques Boulenger, *Marceline Desbordes Valmore, sa vie, son secret*. Much comment was caused by the publication of a collection of private papers of Sainte-Beuve giving his intimate appreciation of some of his contemporaries: they are indeed well called *Mes poisons*. The first volume of Renan's *Correspondance* came out. R. Palgen, *Villiers de l'Isle-Adam, auteur dramatique*; Camille Soula, *Essai sur l'Incrédulisme mallarméen*; Paul Voivenel, *Rémy de Gourmont vu par son médecin*. Another sensational book about Anatole France, Mme. Jeanne Marie-Pouquet, *Le salon de Mme Armand de Caillavet* (the latter being considered as hav-

ing shaken France from his natural laziness, and thus as indirectly responsible for much of France's work). A fanatic attack on A. France came from the pen of Barry Cerf, *The Degeneration of a Great Artist*. One must especially emphasize here the completion of the great work under the direction of Eugène Monfort, *Vingt-cinq ans de littérature française, 1895-1920* (two strong volumes, Libr. de France). Gonvague Truc has *Quelques peintres de l'Homme contemporain* (Giraudoux, Montherlant, Martin-du-Gard, Morand, Hamp, Bloch, etc.) And the publisher Kra issues an *Anthologie de la nouvelle prose française*, sister book to *Anthologie de la nouvelle poésie, française*. The collection "Grandes vies" has now: *Vie prodigieuse de Balzac*, R. Benjamin; *Le Roman de Villon*, Carco; *Vie paresseuse de Rivarol*, Latzarus; *Vie raisonnable de Descartes*, Dimier; *Vie douloureuse de Rimbaud*, J. M. Carré.

LITERARY EVENTS. Commemoration of tercentenary of Mme de Sévigné, and of Mlle. de Scudéry; Centenary of Brillat-Savarin; of Paul de Saint-Victor, of Emile Montégut; fiftieth anniversary of Fromentin's death, and of George Sand (a special room is now dedicated to her in the Musée Carnavalet). Tenth anniversary of Verhaeren's death and his ashes removed to Belgium. Inauguration of a Victor Hugo chair at the Sorbonne, provisional professor, Henri Ghéon the poet; permanent, Professor Lebreton. A special number of *L'Europe* consecrated to Romain Rolland for the 60th anniversary of his birth.

The chief literary prizes not recorded under Novel or Poetry: Grand Prix de littérature, Gilbert de Voisins; Grand prix de l'Académie, Courteline; Grand prix de litt. coloniale, Roland Level, *L'Afrique occidentale dans la litt. fr.*; Prix Roquette-Gonin, Victor Giraud; Prix Claire-Virenque (de litt. spiritualiste), to Mlle. Geneviève Duhamel for *l'ie et mort d'Eugénie Guérin*, and to Henriette Charasson, for *Les heures du foyer* (verses). The Prix de la Vigne (offered by the *Figaro* to the poet who best praised the product of the vineyard) to the poet Raoul Ponchon.

NECROLOGY. Two Academicians, René Boylesve, Jean Richepin (q.v.); two Goncourt Academicians, Elémir Bourges, Guet, Geoffroy (president); others: A. LeBraz; Ch. de Bordeu, author of *Terre de Béarn*.

Received in the French Academy: Em. Picard, G. de Porto Riche, G. Lecomte, Alb. Besnard, L. Bertrand (which was a sort of scandal, Bertrand having attacked rather than eulogized his predecessor M. Barrès). The Academy Goncourt elected Courteline and G. Chéreau, and as president chose J. H. Rosny.

An excellent association has been formed by men of high literary standing to recommend to the public at large the best books of the month and to send them out for a small sum; it is called the *Société Segnana*, and a branch is established in New York, (c/o Dr. Champenois, 1819 Broadway, Columbus Circle). The committee for selection consists of H. Bordeaux, J. Bédier, Henri-Robert, and Paul Valéry, all of the French Academy; Pol Neveu, of the Académie Goncourt; Strowski, of the Sorbonne, and L. Bérard, former minister of education.

**FRENCH SOMALI**, so-mi'le, COAST or FRENCH SOMALILAND. A French colony in Africa on the Gulf of Aden between Italian Eritrea

and British Somaliland. Estimated area, 5790 square miles; estimated population in 1921, 208,000. The port of Djibouti is the seat of the government. Its population in 1921 was estimated at 8366, of whom 354 were European (190 French). After 1922 the government introduced a public elementary schools system at the capital, supplanting the mission school which had been in operation for 20 years. The budget for 1925 balanced at 4,994,700 francs. The country has practically no industries and very little agriculture. The main sources of wealth are commerce, inland trade, and coast fisheries. The imports in 1924 amounted to 293,500,000 francs and the exports to 294,900,000 francs. The chief exports are ivory, coffee, hides and skins. The chief imports are cotton goods, butter, coal, and sugar. A large share of the exports of Abyssinia pass through the port of Djibouti, which is connected by a railway 485 miles long with Addis Abeba. The colony is under a governor assisted by an administrative council.

**FRENCH SUDAN.** A French colony comprising the valley of the Upper Senegal, some two-thirds of the course of the river Niger, and a large part of the Sahara Desert within the sphere of Algeria. Bounded on the east by the territory of the Niger; on the west by Mauritania, the Falemé River, and French Guinea; on the south by the Upper Volta and the Ivory Coast; and on the north by the territory of Algeria. Area, estimated at 648,480 square miles; population, estimated in 1925, at 2,500,000, of whom 1788 were Europeans. The capital is Bamako, with 28,719 inhabitants. Other important towns and their populations are: Kayes, 10,876; Timbuktu, 7000; and Sikasso, 7000. All the chief towns have regional or urban schools. The native crops include ground nuts, millet, corn, cotton, rice, sesame, rubber, and kariti; also a large number of cattle. Native industries are of some importance, including the making of pottery, jewelry, and leather, and weaving. The total imports in 1924 amounted to 52,399,562 francs and the total exports to 20,945,816 francs. The chief imports were cottons, foodstuffs, and metal-work; and the chief exports, ground nuts, cattle, rubber, gum, kapok, skins, and wool. The budget for 1926 provided for 32,000,000 francs. There is railway connection with the coast over a line 745 miles in length. The government is under the Governor-General of French West Africa (q.v.).

**FRENCH WEST AFRICA.** French West Africa, comprising the Atlantic coast colonies of Mauritania, Senegal, French Guinea, and the Ivory Coast, the colony of Dahomey on the Gulf of Guinea, and the interior colonies of French Sudan, Upper Volta, and the Territory of the Niger, includes the river basin of the Senegal, nearly all the upper and middle Niger Basin, the basin of a large number of rivers emptying into the Gulf of Guinea, and the southern part of the Sahara region. It has an area of 4,665,000 square kilometers and a population of 12,283,000, as compared with a total area of all the French protectorates, and mandated territories of 10,241,000 square kilometers and a total population of 55,570,000. So diversified is the native population of French West Africa that official French reports classify the inhabitants under more than 50 groups. Some very extensive areas of this region are practically deserted, while others have a population as high as 60 persons

to the square kilometer. The total number of white people is not over 10,000, their rôle being that of directors or supervisors. Ordinarily the heat is such that they cannot support manual labor nor remain in the country permanently. The natives in general live by farming and stock raising. Up to the present time few useful minerals have been discovered, and the output is comparatively small in value.

In July, 1925, there were 360 primary schools, with a staff of 749 teachers and about 36,000 pupils. Secondary courses are offered in two schools at Dakar. The general budget for 1925 amounted to 88,547,000 francs. Although French West Africa has numerous water-courses, with some exceptions those that are navigable are suitable only for small boats and usually for limited distances. Accordingly, the transportation so essential to the development of the colonies must depend mainly upon the railways. There are about 3000 kilometers of railroads, the principal lines being those of Dakar-St. Louis (Senegal); Thies-Kulikoro (Senegal and French Sudan); Konakry-Kankan (French Guinea); Abidjean-Buke (Ivory Coast); Kotonu-Save (Dahomey); and Porto Novo-Pobe (Dahomey). About 3000 additional kilometers of railroads were either under construction or planned in 1926, but the full programme will not be completed for many years.

Oil nuts, oil seeds, and cotton are the products of chief interest in French West Africa, and on them the local authorities have concentrated their main efforts. An indication of the success attending the efforts to expand native production is to be found in the higher value of French West African trade during 1925. According to provisional figures issued by official sources in the colonial group under consideration, the imports into French West Africa during that year reached a value of 1,101,988,000 francs, as compared with a value of 759,438,000 francs in 1924; exports were valued at 882,091,000 francs, as against 641,781,000 francs in the previous year. Both imports and exports attained a larger amount in the case of every colony except French Sudan, where a 70 per cent increase in imports was accompanied by a 25 per cent decrease in exports. It is probable, however, that some of the exports accredited to Senegal and French Guinea originated in French Sudan. The extent to which expansion in trade is being shared individually by the leading colonies is shown in the official statistics of exports and imports for the early months of 1925—the latest period for which figures are available.

VALUE OF FRENCH WEST AFRICA'S FOREIGN TRADE, BY LEADING COLONIES  
[In paper francs <sup>a</sup>]

Colony	Imports	
	1924 Francs	1925 Francs
Senegal <sup>b</sup> .....	184,151,865	341,138,786
French Guinea <sup>b</sup> .....	29,785,090	50,891,907
Dahomey <sup>b</sup> .....	38,824,959	49,541,659
Ivory Coast <sup>c</sup> .....	30,925,566	41,598,238
French Sudan <sup>d</sup> .....	12,199,848	22,912,793
Upper Volta <sup>d</sup> .....	752,487	998,504
Colony	Exports	
	1924 Francs	1925 Francs
Senegal <sup>b</sup> .....	283,834,592	862,377,596
French Guinea <sup>b</sup> .....	19,767,059	21,141,053
Dahomey <sup>b</sup> .....	48,241,646	53,858,421
Ivory Coast <sup>c</sup> .....	87,205,115	44,182,718

Colony	1924 France	1925 France
French Sudan <sup>a</sup> .....	568,797	825,018
Upper Volta <sup>a</sup> .....	2,810,580	4,831,839

<sup>a</sup> The exchange value and fluctuations of the franc are the same as in France, averaging 5.24 cents in 1924 and 4.77 cents in 1925.

<sup>b</sup> Figures for first six months.

<sup>c</sup> Figures for first five months.

<sup>d</sup> Figures for first three months.

A governor-general, assisted by a council, is at the head of the administration of all French West Africa. The seat of government is at Dakar. Each colony is under a lieutenant-governor subject to the governor-general. Governor-general at the beginning of 1926, M. Carde, appointed Feb. 20, 1923.

**FREUD, SIGMUND.** See PSYCHO-ANALYSIS.

**FRIENDS, RELIGIOUS SOCIETY OF.** A mystical religious sect which originated in England in the middle of the 17th century. The founder of this religious society was George Fox (1624-1691), who visited America in 1672. The first Yearly Meeting in the United States was held at Newport, Rhode Island in 1661, and has continued under the name of New England Yearly Meeting. Others established within the next forty years are known as Baltimore, Philadelphia, New York, and North Carolina Yearly Meetings, and these are composed of quarterly and monthly meetings having one or more congregations. In the nineteenth century, others were formed as migration moved westward. The largest body, known as the Orthodox Group, organized what is known as the Five Years Meeting in 1902, which meets as a delegate body every five years, and in 1926 consisted of twelve yearly meetings with a membership of 81,566. Its headquarters are at Richmond, Indiana. The work of the various departments, such as Home and Foreign Missions, Peace, Religious Education, etc., was under the direction of a General Secretary and executive secretaries of Boards. *The American Friend*, a weekly religious journal, is published at headquarters, as is also literature for the schools of religious education.

The Five Years Meeting also maintains seven colleges for higher education.

Haverford College is maintained by Philadelphia Yearly Meeting, and Pacific College by Oregon Yearly Meeting, not a part of the Five Years Meeting. Another Orthodox body not a part of the Five Years Meeting is the Ohio Yearly Meeting, with a membership of 6368 in 1926.

The Liberal Branch of the Religious Society of Friends includes seven Yearly Meetings federated in the Friends' General Conference, which meets in the even numbered years and conducts work in religious education, social service, and advancement of Friends' principles. The separation of 1827 centred around the doctrinal issues of that day and the preaching of Elias Hicks. The General Conference claims to be "liberal" in that it asks each individual to follow the voice of God in his own soul rather than any individual or church authority. The membership in 1926 was 16,689, and there were 140 meetings. Publications include the weekly periodical, *Friends' Intelligencer*, and a monthly magazine for children, *The Scattered Seeds*. The Society conducts several secondary schools.

The tendency among the different branches of Friends in America was more and more towards

working together and with English Friends. Among the united undertakings were: The Young Friends' Conference; Woolman School, founded in 1915 as a school for religious and social study, and located at Wyncote, Pa.; the American Friends' Service Committee, formed in 1917 for war relief work, and since the war conducting Friends' Centres at home and abroad for international understanding and reconciliation between conflicting nations, races, and other groups.

**FROTHINGHAM, PAUL REVERE.** American Unitarian clergyman, died in Boston, November 27. He was born at Jamaica Plain, Mass., July 6, 1864, and graduated from Harvard College in 1886. Three years later he graduated from Harvard Divinity School, and in the same year became pastor of a church at New Bedford. In 1900 he was called to the Arlington Street Church, Boston, and continued as its pastor until his death. Dr. Frothingham was conceded to be a leader in the American Unitarian Church, occupying as he did the historic pulpit of Dr. William E. Channing, and was a clergyman with a distinct and decided view of Christianity. He was an able preacher, and a man of scholarly and literary tastes. At various times he had been preacher to Harvard University, and had served two six-year terms as overseer of that institution. In 1915 he received the degree of doctor of divinity from Harvard. His publications were: *William Ellery Channing: His Messages from the Spirit; The Temple of Virtue* (1907); *We Believe* (1917); and *Edward Everett, Orator and Statesman* (1925).

**FRUIT AND FRUIT RAISING.** See HORTICULTURE.

**FRUIT MOTH, ORIENTAL.** See ENTOMOLOGY, ECONOMIC.

**FULLAM, WILLIAM FREELAND.** American naval officer, died at Washington, D. C., September 23. He was born in Pittsford, N. Y., Oct. 20, 1855, and graduated from the United States Naval Academy at the head of his class in 1877. He passed through the various grades of the navy until Dec. 15, 1914, when he was appointed rear-admiral, and was superintendent of the United States Naval Academy at Annapolis. He served on the *Trenton* and the *Marion* on the European station, and the *Sweara* on the China station. From 1883-1904, he was on duty at the United States Naval Academy, being head of the Department of Ordnance. During the Spanish-American War he served on the *New Orleans*; later he commanded the *Chesapeake* and *Terror*, practice ships, and the *Marietta* in the West Indies. He commanded the Naval Training Station at Newport, R. I., 1907-09, and the battleship *Mississippi* in 1910. He was commandant of Naval Training at the Great Lakes, Ill., in 1912, and in the following year was aid for inspections to Secretary of Navy Meyer, and for personnel to Secretary Daniels in 1914. In 1915 he was made commander-in-chief of the Pacific Reserve Fleet, and in 1916-17 commander of the Patrol Force of the Pacific Fleet. After the outbreak of the War he commanded the second division of the Pacific Fleet and was senior officer in command of the Pacific, 1917-19. He retired Oct. 20, 1919. He was the author of: *Hand-Book of Infantry and Artillery, U. S. N.* (1899); *Text-Book of Ordnance and Gunnery* (1902); *The Recruits' Handy-Book*; and cooperated in the preparation of various navy drill books. He

was an outspoken critic of modern naval practice and theory, believing that aircraft and submarine had reduced the battleship to a subordinate place in modern naval armament. While superintendent of the Naval Academy his recommendation that seven midshipmen be dismissed for irregularity in examinations was not sustained, five of the accused being cleared by the court. He also recommended the abolition of the use of chewing gum in the navy in 1911, and for many years it was forbidden.

**FUQUA**, HENRY L. Governor of Louisiana, died at Baton Rouge, La., October 11. He was born at Baton Rouge, Nov. 8, 1865, and after a preparatory education at Magruder's Collegiate Institute at Baton Rouge became a student in the Louisiana State University. His first employment was with a corps of engineers in the construction of what was later the Yazoo & Mississippi Valley Railroad, and later engaged in bridge building on the same line. He then engaged in the hardware business at Baton Rouge in 1892, organizing the Fuqua Hardware Company, and serving as its manager until 1916. In 1916 he became warden of the State Prison of Louisiana, holding that position until 1924. His work included also the management of three large plantations owned by the State. In 1924 he became governor, defeating Lieut.-Governor Hewitt Bouanchaud, a Catholic running on an anti-Klan platform, and Huey P. Long. After his election the legislature passed, at his suggestion, bills providing heavy punishment for masking in public and for committing crimes while wearing a mask.

**FUR AND FUR-BEARING ANIMALS.** See ALASKA.

**GABUN.** See FRENCH EQUATORIAL AFRICA.

**GALICIA**, gá-lish'i-á. A former crownland of the Austro-Hungarian Empire, but after 1919 an integral part of Poland. The district lies to the south of Poland and to the west of Podolia in Russia.

**GALL STONE DISEASE.** In the YEAR BOOK for 1925 there was given a preliminary account of a new method for making the gall bladder visible in röntgenograms. This method, known as cholecystography, has since come into general use throughout the civilized world. It is summed up by Dr. Cade in the *Lancet* for July 3, as follows: "Cholecystography is a new method of investigating the biliary system based on the ability of the liver to excrete certain dyes which are opaque to the X-rays. It is a means of studying the topography of the gall bladder in the living; throws light on the physiology of the gall bladder, on its activities under various conditions and on its multiple functions. It is a means of controlling the non-operative treatment of chronic cholecystitis. It adds greatly to the accuracy of the clinical diagnosis and is to the biliary system what the opaque meal is to the alimentary canal and pyelography to the urinary tract. It has made rapid advances in a very brief space of time."

In the same issue of the *Lancet* is an editorial on the great importance of these dyes for medical diagnosis. All are derivatives of phenolphthalein. The sulphone compound is used for testing the functions of the kidneys. The chlorine compound which is excreted largely by the liver can be utilized to measure the functional capacity of that organ, while the concentrating quality of the bile renders that fluid opaque to the röntgen

rays and thus first suggested the new development cholecystography. It was however soon learned that the bromine and iodine compounds are superior in this respect to the chlorine compound. By means of the röntgen plates we can determine the substances which are able to contract the gall bladder and which have already been studied by means of the duodenal sound. Thus a meal rich in cream and butter will cause the shadow of the gall bladder to disappear in two or three hours and we can understand the influence of large doses of olive oil in keeping the biliary passages clear. Sulphate of magnesium requires longer and produces less contraction.

**GAMBIA.** A British protectorate and colony in West Africa at the mouth of the Gambia River. Area of Gambia proper, four square miles; population about 9000. Area of protectorate, 4130 square miles; population in 1921, about 200,000. The capital is Bathurst, on the island of St. Mary (population, 9227 in 1921). In 1924 there were eight elementary government aided schools with 1688 pupils enrolled. In the same year the imports totaled £672,018 and the exports, £1,002,330. The chief imports were wearing apparel and foodstuffs and the chief exports, ground nuts, hides, and palm kernels. The public revenue in 1924 was £208,613 and the public expenditure, £203,635. The public debt amounted to £125,893. The tonnage of vessels entered and cleared in the foreign trade in 1924 was 1,097,366 tons, of which 643,072 were British. There are no local railways. The colony is administered by a governor, an executive council and a nominated legislative council containing an unofficial element. Governor at the beginning of 1926, Capt. Cecil H. Armitage.

**GARBAGE AND REFUSE DISPOSAL.** The trend towards incineration as a means of the disposal of garbage and refuse where the two are collected together instead of separately continues. Existing reduction works for recovering grease and fertilizer base from garbage unmixed with other refuse were still operated either on a contract basis or directly by some of the largest cities of the country. A variant from the usual type of reduction works was completed during the year by the contractor for garbage disposal at Kansas City, Mo. The garbage there was being made into food for animals. Thousands of hogs on a distant fruit and stock ranch were eating the garbage of Los Angeles, under a private contract, and garbage disposal by feeding to hogs was still the practice in many smaller cities. "Sanitary fills," at which garbage and refuse are used to raise the level of low lands, with a good cover of ashes or earth maintained at the top of the fill was still the method of disposal for these materials at Seattle, Wash., and some other cities, and was under consideration during the year at San Francisco as a substitute for the use, up to capacity, of an old destructor of the British type.

In England, where the time-honored "dust bin" receives garbage and all other classes of refuse at the points of production, for subsequent municipal removal, sorting for recovery of salable materials and to reduce the volume going to destructors, where these are used, was on the increase, but a large percentage of the mixed refuse of British cities was still dumped on land, including much of that produced by the nearly



thirty cities and boroughs composing the administrative county of London. Birmingham, England, opened new refuse salvage and destructor works on June 15, in continuation of its policy of substituting such plants for its old "tips" or dumps. According to *The Surveyor* (London) of June 18, 1926, the new plant, known as the Tynsley works, was to serve 46,000 houses and 210,000 population, which produced 51,500 short tons of mixed refuse annually. Collections were made by 5-ton electric vehicles. These dump the refuse into hoppers, from which it passes through rotary screens of  $\frac{3}{8}$ -in. mesh. The screens remove some 40 per cent of the "fine dust," which is transported by an "aërial ropeway" to a dumping area. A magnetic separator at each screen removes cans and other magnetic material from the tailings before the latter go to salvage sorting belts. What is left of the tailings is lifted to hoppers, one above each of the two destructor units. Clinker, the hard residue after burning, is hauled from the destructor to a double-roller crusher in trucks pulled by an electric-battery motor. The crushed clinker passes through a screen-type of magnetic separator and then to a second screen which grades the crushed clinker and delivers it into corresponding compartments in a hopper. The salvaged paper is conveyed by suction to baling presses. Cans are detinned and then baled by two hydraulic presses. Electric power for plant operations is generated from steam produced by heat from the destructor. For a summary of refuse disposal at six British municipalities, one of which used its refuse for raising low land, see *Engineering News-Record*, Sept. 30, 1926.

#### GARDENING. See HORTICULTURE.

**GAS, ILLUMINATING AND FUEL.** The Statistical Department of the American Gas Association issued in 1926 statistics compiled from returns made by 544 gas companies, representing 86.2 per cent of the total gas produced and purchased, and extended by estimates and information derived from various sources to the American gas industry as a whole. In 1925 there were 987 companies in the United States engaged in supplying manufactured gas to the public, New York, with 91 companies, followed by Pennsylvania with 88 companies, and Illinois with 62 companies standing at the head of the list. Of the 987 companies mentioned 58 were municipal plants supplying manufactured gas to the public. There were 82 coke oven plants which sold gas to distributing companies. The gas-producing plants, according to the process employed, were grouped as follows:

Coal gas plants .....	189
Water gas plants .....	429
Oil gas plants .....	71
Mixed gas:	
Coal and water .....	150
Water and oil .....	3
Water and coke oven .....	9
Coal, water and coke oven .....	5
Coal and oil .....	3
Coal, water and purchased .....	5
Water and purchased .....	12
Water and natural .....	4
Oil and natural .....	3
Reformed natural .....	4
Not known .....	1
Distributing plants (gas purchased) .....	99
Total manufactured plants in U. S. ....	987
By-Product coke oven plants .....	82

The number of meters in use in the United States was estimated at 10,115,640 ordinary meters and 709,360 pre-payment meters, or a total of 10,825,000. Other distribution data were as follows:

Number of consumers .....	10,600,000
Miles of gas main .....	86,823
Meters per mile of main .....	125
Number of active services .....	7,500,000
Population served .....	52,000,000

The estimated production of manufactured gas in 1925 was as follows:

	Thousand cu. ft.
Carburetted water gas .....	232,000,000
Coal gas .....	63,700,000
Oil gas .....	28,700,000
Coke oven gas purchased and distributed for public use .....	76,600,000
(Coke oven gas consumed at point of pro- duction or for purposes other than public use is not included.)	
Total manufactured gas .....	401,000,000
Natural gas purchased and mixed with manufactured gas for public use .....	56,100,000
Grand total .....	457,100,000

Considering the increased volume of manufactured gas sold, the figures of the American Gas Association as to the purposes for which it was used were of interest. These estimates were as follows:

Purpose	Per cent	Thousand cu. ft.
Domestic uses .....	71.3	300,500,000
Industrial and commercial uses .....	26.8	113,000,000
Unclassified .....	1.9	7,900,000
Total .....	100.0	421,400,000
Total revenue from sale of gas .....		\$452,000,000.00
Miscellaneous operating revenue .....		13,000,000.00
Total gross operating revenue .....		465,000,000.00

In the manufacture of gas for public use the following quantities of coal and oil were used: Bituminous coal, 7,400,000 short tons; anthracite coal, 960,000 short tons; coke, 3,800,000 short tons; gas oil, 932,400,000 gallons; fuel oil (not used for gas making purposes), 14,960,000 gallons. These figures do not contain the materials used for the manufacture of the coke oven gas purchased by distributing companies for public use. In 1925, a total of 89,758 persons were employed by gas companies as officers, executives and salary and wage earners.

**GAS, NATURAL.** The United States Bureau of Mines estimated the production of natural gas in 1925 as 1,164,000,000 M cubic feet, valued at \$255,000,000. In 1925 the production of gasoline from natural gas was estimated at 1,104,900,000 gallons, valued at \$117,000,000, the product, which was raw unblended gas, resulting from the treatment of natural gas to the amount of 1,200,000,000 M cubic feet.

The natural gas produced in the United States and delivered to consumers, according to the Bureau of Mines, in 1923-24, is given in the accompanying table.



**NATURAL GAS PRODUCED IN THE UNITED STATES AND DELIVERED TO CONSUMERS,  
1923-1924, BY STATES\***  
[Value is at point of consumption]

State	1923		1924	
	M cubic feet	Value	M cubic feet	Value
Arkansas .....	24,215,000	\$3,255,000	36,616,000	\$4,908,000
California .....	181,484,000	22,787,000	189,692,000	35,949,000
Colorado .....	800	400	47,600	1,700
Illinois .....	4,049,000	690,000	4,072,000	759,000
Indiana .....	880,000	460,000	998,000	494,000
Kansas .....	30,913,000	11,249,000	25,580,000	10,087,000
Kentucky .....	11,953,000	8,156,000	12,875,000	3,432,000
Louisiana .....	112,031,000	6,022,000	160,945,000	7,626,000
Michigan .....	700	320	800	800
Missouri .....	17,000	14,000	71,000	61,000
Montana .....	1,470,000	317,000	1,071,000	272,350
New York .....	6,497,000	3,739,000	6,196,000	3,632,000
Ohio .....	53,812,000	25,675,000	47,396,000	24,203,000
Oklahoma .....	203,082,000	31,214,000	214,452,000	31,045,700
Pennsylvania .....	112,562,000	45,873,000	105,863,000	45,546,000
South Dakota .....	33,000	16,600	3,000	2,500
Tennessee .....	4,100	1,000	1,200	450
Texas .....	74,535,000	11,320,000	107,247,000	13,748,000
West Virginia .....	203,867,000	69,981,000	182,285,000	68,000,000
Wyoming .....	35,523,000	4,222,000	46,036,000	4,081,000
Other* .....	97,400	8,680	73,600	7,000
<b>Total .....</b>	<b>1,006,976,000</b>	<b>240,001,000</b>	<b>1,141,521,000</b>	<b>253,858,000</b>

\* 1923: Alaska, Iowa, New Mexico, and North Dakota; 1924: Alaska, Iowa, and North Dakota.

**GAS AND OIL ENGINES.** See INTERNAL COMBUSTION ENGINES.

**GASES.** See PHYSICS.

**GASOLINE.** See PETROLEUM.

**GASOLINE, SYNTHESIS OF.** See CHEMISTRY, INDUSTRIAL.

**GASOLINE, TAX ON.** See ROADS AND PAVEMENTS.

**GENERAL EDUCATION BOARD.** See UNIVERSITIES AND COLLEGES.

**GENERAL STRIKE.** See GREAT BRITAIN, under *History*.

**GENEVA CONFERENCE.** See DISARMAMENT.

**GENTIOBIOSE.** See CHEMISTRY, INDUSTRIAL, under *Sugar*.

**GEOGRAPHICAL SOCIETY, AMERICAN.** The oldest geographical society in the United States, founded in 1852, "to collect and disseminate geographical information by discussion, lectures, and publications; to establish in the chief city of the United States a place where may be obtained accurate information on every part of the globe; and to encourage such exploring expeditions as seem likely to result in valuable discoveries in geography and related sciences."

The Society's leading activity in 1926 was in the field of publication. Its publications consist of books, pamphlets, maps, and a quarterly periodical, the *Geographical Review*. The *Review* contains a great variety of articles based upon the analysis of the world's current geographical literature, and reviews of the more significant geographical books. The books and pamphlets published by the Society fall into six series. The *Research Series* consists of specialized monographs. The *Special Publications* are of a more general appeal. The *Library Series* is devoted primarily to the collections of the Society. Two issues of the *Outing Series* had appeared up to the end of 1926: a trampers' guide to the Palisades Interstate Park and a trampers' guide to the vicinity of New York City. The publications of the fifth series are known as the *Map of Hispanic America Publications* and accompany an important group of maps which the Society is producing. Number 2 of this series, by Prof. W. M. Davis, a volume on the physical geography of the Lesser Antilles, was published

in 1926. The basic maps of Hispanic America are on a scale of 1:1,000,000, and are in essential conformity with the International Millonth Map of the World. Notable progress in this work was accomplished in 1926, several sheets having been made ready for distribution and others being in an advanced state of preparation. The first volume of the sixth series, *Oriental Explorations and Studies*, which was published late in 1926, deals with the explorations of Prof. Alois Musil in the Northern Hejaz, Arabia.

The maintenance of a specialized geographical library and of an extensive collection of maps is an important phase of the Society's activity. Valuable additions were made to these collections in 1926. Six regular lectures by distinguished explorers or geographers are delivered each year before the members and guests. The Society recognizes contributions to the development of geographical science and exploration in its elections to honorary and corresponding memberships and in the bestowal of medals. During 1926 seven medals were presented by the Society. The president of the Society in 1926 was John H. Finley, LL.D.; Isaiah Bowman, Ph.D., was director. The Society's building is at Broadway and 156th Street, New York City.

**GEOGRAPHIC SOCIETY, NATIONAL.** An organization founded in 1888, "for the increase and diffusion of geographic knowledge." During the year it continued its policy of supporting exploration, research, and educational work. Dr. Neil M. Judd led what was probably to be the final expedition of the series sent into the Chaco Canyon country of New Mexico by the Society for the excavation and study of the prehistoric apartment house at Pueblo Bonito, as a result of which that region had come to be considered the most important site of Indian culture north of the Rio Grande River. The two objectives of this expedition were to determine the age of the various civilizations that inhabited Pueblo Bonito and to continue the exploration of stratigraphic conditions in the region. In the realization of these objectives, eleven other experts in different fields, including geology, engineering, and archaeology, joined Dr. Judd in this work.

Applying the discovery of Dr. A. E. Douglass that certain cycles in tree-ring formations agree

with the 11-year sun-spot cycle, it was possible to establish a calendar dating from the beginning of the growth of the trees from which logs were taken for the construction of mission buildings under the old Spanish régime down to the present. This discovery also made it possible to establish a calendar for the Bonitian period. Between these two calendars there existed an important hiatus. To fill this gap and thus to secure a consolidated calendar of the years from the beginning of the Bonitian civilization to the present, a search was made for timbers which grew in the period between the two calendars, with some success. The stratigraphic exploration took the form of running trenches through the débris pile of Pueblo Alto on the cliff 1 mile north of Chaco Canyon and through that of Penasco Blanco 4 miles west of Pueblo Bonito. This series of expeditions demonstrated that the ancient Indians of our Southwest, to whom the Egyptian Pharaohs and the Babylonian Kings were unheard-of strangers, used the same general methods of irrigation that were employed in the earliest history of the Nile and the Euphrates.

Under an appropriation of \$55,000 from its research fund, the Society was able to provide for a third continental solar observation station for the study of the fluctuations in the sun's radiation, under the direction of Dr. Charles G. Abbot, of the Smithsonian Institution. After an investigation of available sites in Asia and Africa, Mount Brukkaros in South Africa, was selected because of its atmosphere at once free from impurities, dry, rare, and constant. With the support of the South African Government and the aid of the Hottentots, the station was put in operation with W. H. Hoover and F. A. Greeley as observers. Progress made in this work of observing the variability of the sun's radiation served to support the theory that there is a very close relationship between these variations and the weather, and to justify the hope that through their interpretation long-range forecasting would become possible. Such long-range forecasting would be of great help to farmers, to those who plan conventions and open-air meetings, to ships at sea, etc.

In its work of encouraging research, the Society awarded the Hubbard Gold Medal to Lieut-Com. Richard E. Byrd, Jr., U. S. N., and its Special Gold Medal to his pilot, Floyd Bennett, for their notable contributions to geographic knowledge in reaching the North Pole by airplane. See AERONAUTICS and POLAR EXPLORATIONS. In endorsing the movement for the establishment of the Shenandoah National Park, the Society voted a grant for the purchasing of a tract of land to be included in the Park when the Government should authorize it.

The Society continued its series of State maps of the American commonwealths, issuing those of North Carolina, South Carolina, Georgia, and Eastern Tennessee. During 1926 bulletins dealing with the geographical backgrounds of current events were furnished to more than 600 newspapers, and weekly bulletins of timely geographical information were sent to about 30,000 school teachers. As a part of its educational work a weekly ready-to-print service was supplied to about 1200 daily or weekly papers. Upon request bulletins relating to the geography of Bible lands and mission fields were sent to about 80 church and Sunday School periodicals

and used by them in schools where Americanization work was in progress.

The chief activity of the Society in the diffusion of geographic knowledge is carried on through its official publication, the *National Geographic Magazine*. At the end of 1926 there was a membership of 1,050,000, representing every civilized nation. Officers for the year were: President and Editor, Gilbert H. Grosvenor; Vice-President, Henry White; Vice-President and Associate Editor, John Oliver LaGorce; Treasurer, John Joy Edson; Secretary, O. P. Austin; Associate Secretary, George W. Hutchison; General Counsel, Edwin P. Grosvenor; Chairman Committee on Research, Frederick V. Coville; Assistant Editors, William Joseph Showalter and Ralph A. Graves; Chief of Illustrations Division, Franklin L. Fisher; Chief of School Service, J. R. Hildebrand. Headquarters are in Washington, D. C.

**GEOGRAPHY.** See EXPLORATIONS.

**GEOLOGICAL SURVEY, UNITED STATES.** The U. S. Geological Survey, during the year 1925-6, made geologic surveys in 43 States and the District of Columbia including geologic mapping, determination of stratigraphy, structure and geologic history, and examination of mineral resources. It cooperated with eight States in geologic work and continued detailed geologic mapping of the coal fields of public land States, preparing reports showing the outcropping, thickness, quality of coal, and estimates of available tonnage. Eight field parties were maintained in Alaska during the field season. The bureau also took over by transfer from the Bureau of Mines the supervision of the production of coal and oil on public lands in Alaska as well as the supervision of mine safety. The report shows that 227,036 books, 8949 geologic folios, and 760,346 maps of the Geological Survey were distributed during the year of which 637,779 maps and folios were sold for \$47,840.86.

**GEOLOGY.** Interest in the several branches of geology continued unabated during 1926. As usual, many of the contributions were concerned with economic problems and with special fields of which notice could hardly be taken in a brief review, but a number of general works and researches with a broad appeal may be noted in the array of publications. The 14th session of the triennial Congress of Geologists, held in Madrid during the summer, was the outstanding event in the list of meetings and was largely attended. In accordance with custom the members were invited to contribute to a particular subject of international interest, with the purpose of later bringing the papers together to form an exhaustive report by the leading authorities in the field. The topic for this meeting was the world supplies of phosphate and pyrite.

An important place in the list of reference works must be assigned to *Geologie der Erde*, according to the promise indicated by the first installment that has recently been issued. The plans, as drawn by Professor Krenkel, call for the issue of five volumes, each devoted to the description from modern geophysical and geochemical standpoints of one of the continents. The initial volume, of which the first of two parts, has so far been published, relates to Africa, and was prepared under the immediate direction of Professor Krenkel, the chief editor. It is conceived on a broad and comprehensive, if

not exhaustive, scale, corresponding to the needs of students interested in physiography, stratigraphy, tectonics and mineral resources in their larger development. R. Ruedemann was to have charge of the volume descriptive of North America.

For the study of the earth's interior, *Der Aufbau der Erde* by Gutenberg can claim consideration as a useful reference book in which are incorporated the later methods and points of view. The developments in radioactivity, seismology, the study of physical constants of minerals and rocks and the application of the principle of isostasy have supplied valuable criteria for investigation of the recondite problems connected with the internal structure of the earth. It would appear to be fairly established that the structure is complex and that the outer shell of crystalline rocks, mainly silicate minerals, is of very moderate thickness, possibly only 40 or 50 miles. Below this crust are layers of increasing density, in which iron compounds probably predominate, arranged concentrically about a core that possesses a relatively high specific gravity. Gutenberg would explain this high density by the uncombined or atomic condition of the constituents, whereas the intermediate layers consist of simple binary compounds and silicates in isotropic or glassy state, and the crust largely of crystalline silicates. In general this conforms to the prevailing views of the present day.

Joly's *History of the Earth* belongs to the same class of works as the preceding volume in that it treats of the geophysical aspects of the subject, but especially from the viewpoint of the writer's own researches and speculations. With due allowance for some of the more daring hypotheses, it may be regarded as a very readable account of the newer developments.

An excellent treatise on physiography is *Traité de Géographie* by E. de Mertonne, recently rewritten and now issued in three volumes with much new illustrative material. It is a work of reference of the first order. Of more popular nature is *Geology in Relation to Landscape*, by J. Henderson, who may be commended for his clear logical presentation of the subject; it should prove of value both for the layman and as an introductory textbook. Other volumes in this class, recently published, are Shiner's *Introduction to Earth History* and Quale's *Elements of Geology*.

The study of glacial geology has gained both intensively and extensively of late years. It is no longer confined to the limits of the Pleistocene, the Ice Age of older terminology, for the events of that period were by no means unique. There were ice invasions in the Mesozoic, the Paleozoic and Pre-Cambrian eras, and at one time or another they spread over all the climatic zones. As a foremost student of the later and earlier glacial phenomena, Professor Coleman has made a timely and authoritative contribution in his volume, *Ice Ages, Recent and Ancient*.

AGE OF THE EARTH. THE YEAR BOOK for 1925 mentioned the novel applications of radioactivity to the estimation of geological time and some of the results already obtained by these methods. On the whole, the estimates have been concordant and in conformity with prevailing geological and palaeontological opinion, which has rather protested against the rigid views taken by geophysicists like the late Lord Kelvin

who based their estimates on the rate of cooling of the earth, uninfluenced by atomic disintegration. An allowance of 25 or even 50 million years seems altogether too short for the accomplishment of such tremendous changes as have occurred in both the organic and inorganic world. The newer methods of time calculation have their basis in the lead-uranium and lead-thorium ratios found in minerals. The rates of atomic disintegration are supposed to have been nearly uniform from the time the minerals were deposited. This is an assumption of critical importance, of course, to the accuracy of the calculations, but has the support of such authority as Arthur Holmes, who is perhaps the leading investigator in the field.

A recent analysis of the evidences by that physicist would indicate that more dependence for accuracy may be placed upon the lead ratios of uranium minerals than upon similar ratios derived from thorium minerals. The end products from thorium disintegration are not so resistant to chemical and physical change, particularly under the action of percolating waters, as lead uranate which results from the breakdown of the original uranium compounds. Consequently, whenever there is a wide discrepancy between the results obtained from the two ratios, preference is to be given to the lead-uranium calculations, which are likely to be of larger magnitude for the reason already explained.

A systematic examination of uranium minerals from various geological and geographical environments was in progress, out of which might come a new and more precise chronology for the use of geologists. The investigation in the United States was in charge of A. C. Lane.

The published estimates for the age of the Pre-Cambrian formations, which are the lowest and oldest of the geological series, range within wide limits, that is, from somewhat less than 1000 million years to over 1500 million years. They give an indication of the enormous lapse of time represented in the interval between the earlier and later formations of that era, and likewise some idea of the duration of life on the earth, of which the first definite evidences begin to appear at the close of the Pre-Cambrian age.

THE EARTH'S RIGIDITY. An experimental determination of the compressibility of minerals and rocks, by Adams and Williamson, is of importance in relation to the behavior of the rock materials under pressures encountered at considerable depths. With the apparatus used, it was possible to exert pressures up to 12,000 megabars, corresponding to those attained at depths of approximately 40 kilometers below the surface. In the case of completely crystalline rocks it was found that their compressibility may be calculated from the known corresponding values for the constituent minerals, except at low pressures. In general the compressibility varies with the silica content, being lower for the more acidic materials and increasing with the proportion of the bases. Quartz and metallic iron may be regarded as representing the extremes of compressibility as applied to natural mineral materials. From the ratio of the two kinds of seismic waves transmitted through the earth and the known elastic behavior of compact rock the rigidity of typical rocks may be measured. The rigidity of the earth as a whole, which

probably is near that of steel, is higher than the value of the most rigid silicate rock. Earth vibrations travel at about 5.6 kilometers a second in granite, while their speed in the basic rock dunite is around 7.4 kilometers a second. The speed of the initial waves of an earthquake is a little above 7 kilometers and indicates a source within a material of the composition of gabbro or pyroxenite. There is reason to believe, therefore, that a basic layer exists at shallow depths below the siliceous outer shell.

**EARTHQUAKES.** The need for greater precision in the use of terms by seismologists is argued by Oldham, who makes a distinction of fundamental value between shocks of such size as to impress the human senses—that is, earthquakes in the popular sense of the word—and the small magnitude vibrations that escaped attention until the invention of delicate instruments made their record possible. The establishment of earthquake stations on a broad scale has led to the discovery that these minute tremors are of very frequent occurrence. It has been thought that they might represent long-distance manifestations of heavy shocks which had their centres in remote uninhabited districts or originated possibly under the oceans. Such view seems no longer justified on the basis of recent study. There are probably two kinds of earthquakes which send out similar vibrations but have their origins in different zones within the earth. The larger number of sensible shocks centre about a depth zone of less than 10 kilometers. They are connected with crustal dislocations along fault planes; their waves are transmitted both through and around the earth. They include the destructive shocks. The term "episeism" may be used to distinguish them and is descriptive of their shallow origin. For the deep-seated disturbances of small magnitude the word "bathyseism" may be employed, alike connoting the position or zone from which their vibrations start. No certain explanation has been found for this class of quakes. It is possibly to be connected with changes of bulk in the deeper zone brought about by regrouping of the constituent chemical elements of the rock materials; for example, by the entrance of oxygen into the combinations. Despite their small size, vibrations from this source travel at speeds commensurate with the large-amplitude waves and for long distances. See **EARTHQUAKES; SEISMOLOGY.**

**IGNEOUS ROCKS.** The Katmai volcanic district of Alaska has been the centre of much popular and scientific interest since the remarkable manifestations that accompanied the eruptions of 1912-13 and that have been described in their various phases by investigators in the service of the National Geographic Society. A contribution to the subject was by Fenner who describes the rock materials with reference to their chemical and petrographic characteristics. From their consideration some light is obtained as to the processes by which igneous rocks, primarily of more or less homogeneous nature, split up during the cooling stages into quite distinct mineral aggregates. To these processes the term "magmatic differentiation" is given. Bowen, on the basis of studies in other districts, has sought to explain the effects by fractional crystallization, or at least has emphasized that theory in preference to other possible explanations. The evidences from Katmai, according to Fenner, point more to a combination of several influences than to

one controlling factor during the period of cooling.

The possibility of igneous rocks contributing to petroleum and natural gas accumulations was considered by Lewis, who shows that methane is practically universally present in magmas and may lead to the production of various carbon and hydrocarbon compounds, as well as elemental carbon, water and hydrogen. The more volatile substances diffuse upward in all parts of the earth and under certain conditions may be trapped in the sedimentary formations. There is a certain plausibility about this view of the derivation of oil and gas, although the weight of evidence leans heavily toward the organic method of origin, which is now almost universally accepted by practical oil geologists.

**COLORATION OF SEDIMENTS.** Certain stratified formations are characterized by a red color, like the Red Beds which spread over many thousand square miles in the western United States and are a notable element in the scenery, also the Salina shales of central New York and the Newark sandstone along the Atlantic seaboard. The coloration, according to Dorsey, may definitely be ascribed to the iron content, although the percentages of that element are not necessarily larger than those present in non-red rocks and even may be less. The determinative factors are the relative ratios of the ferric to ferrous oxides and the degree of dehydration the iron minerals exhibit. Ferric oxides by loss of water produce red turgite and red hematite, which are the principal coloring materials. Dehydration takes place most rapidly in warm moist climates, and not under arid conditions as has been postulated by many geologists. In most instances red beds represent continental deposits, since when exposed to the action of sea water the ferric oxides are reduced with loss of coloration. Yet, a large-scale temporary influx of continental waste into the sea may result in the building up of a wedge of red sediments within a marine environment, as illustrated by the Salina.

**SALT DOMES.** An experimental study of the origin of salt domes, by Torrey and Fralish of the University of Pittsburgh, lends support to the mechanical or pressure explanation, as against the view that the up-arching represents the effects of the crystallizing force of rock salt deposited by infiltrating waters or that the beds have been upraised by a buried volcanic plug. Under lateral pressure a plastic mass, which is the nature of rock salt when covered by thick sediments, has a tendency to assume a rounded or elliptical shape as it moves along a fissure up into the higher beds which accommodate themselves to the movement by bending away from the mass. The strata at the surface, thus, dip away from intrusion, the angle decreasing with the distance. The resulting form depends to a great extent upon the nature of the material above and below the plastic mass. Although it is too early to pass final decision on the matter, this theory conforms more closely to the conditions as they are known at present than any other that has been proposed, and the recent experiments have given added authority for its application to the salt mounds of the Gulf Coast.

**PHYSIOGRAPHY.** The Rocky Mountain trench, according to F. P. Shepard, has the form of an uplifted block that has been changed by erosion into a depression, one of the largest in the world.

The trench runs from just south of the international boundary in longitude 115° West for almost 1000 miles along the west side of the Canadian Rockies and has a depth of 3000-10,000 feet. The formations on the borders of the depression are younger than those within it; consequently, the strata between the boundary faults would appear to have been lifted rather than depressed; differential erosion later reversed the conditions as to relative levels.

An interesting study of a remarkable earth subsidence of recent date was given by Pratt and Johnson who describe the movement that has taken place in the last few years on Gaillard Peninsula which projects into San Jacinto Bay, on the coast of Texas. A large part of the peninsula, an area of many square miles with the Goose Creek oilfield near the centre, has subsided more than three feet and is now submerged by the waters of the bay. This change of level has entailed a question as to the ownership of the oil deposits, inasmuch as the State of Texas lays claim to submerged lands. Examination of the conditions reveals the source of the subsidence in the abstraction of some 500,000,000 cubic feet of oil, gas and water in wells bottomed at depths of from 1000 to 4100 feet below the surface, a quantity considerably in excess of the volume represented by the surface depression.

**ORE DEPOSITS.** The relation of igneous magmas to ore deposition was analyzed critically by Professor Vogt in a paper running through three issues of *Economic Geology* for 1926. The contribution explores a field that has attracted much attention from students of economic geology, especially in late years, for it can be said that the agency of igneous rocks in the formation of valuable bodies of both non-metallic and metallic minerals occupies a more prominent place in the study than ever before. The paper was perhaps the outstanding single work of the year in this department, but its bearings are too broad to be set forth clearly within a limited space.

**GLACIAL CLIMATE.** As the primary cause of climatic changes, as exemplified by the recurrence of glacial conditions on the earth, Professor Scott (Presidential Address before Geological Society of America) finds the only adequate agency in the sun. Purely terrestrial influences, like those arising from variations of continental elevation and form, deflection of the ocean currents, atmospheric variations and shifting of the earth's axis, are inadequate by themselves to account for all the conditions involved in widespread glaciation. Sun spots and variation of solar radiation exercise a direct influence upon terrestrial weather and one that differs with the various zones. Their effects may be described as cyclic, rather than as trending uniformly in one direction. Modifications of topography by mountain folding and regional uplift and subsidence are subordinate influences that may bring about changes of temperature and precipitation; it can not be shown, however, that such modifications have accompanied all the revolutionary climatic changes which the earth has undergone or that they are a sufficient condition for them.

**GEORGETOWN UNIVERSITY.** A Roman Catholic institution of higher education at Washington, D. C.; founded in 1789. In the fall term of 1926 there were 2351 students enrolled, with a distribution as follows: Arts and sciences,

889; medical, 344; dental, 128; law, 489; foreign service, 501. The faculty numbered about 350. The Riggs Memorial Library contained 161,247 volumes, and the First Library 12,548. There are also individual libraries maintained by the professional schools. During the year a dormitory accommodating 244 students was completed, and an addition to the University Hospital begun. President, the Rev. Charles W. Lyons, S. J.

**GEORGE WASHINGTON UNIVERSITY.** A coeducational institution of higher education at Washington, D. C.; founded in 1821. The enrollment for the year 1926-27 was 4932, divided as follows: Graduate School, 316; Columbian College, 2520; engineering, 477; Teachers College, 567; medical, 300; law, 714; pharmacy, 38. The summer session had an enrollment of 1542. The faculty numbered 408. The endowment funds amounted to \$855,868.73, from which the income for the year was \$34,438.01. The total income from all sources was \$810,102.33. The number of volumes in the general library was 65,000, in the Law School library, 11,000, and in the Medical School library, 2,000. Plans were rapidly progressing at the end of the year for the immediate construction of unit three of the new university plant, to include quarters for the general library. President, William Mather Lewis, M.A., LL.D.

**GEORGIA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,895,832. The estimated population on July 1, 1926, was 3,139,000. The capital is Atlanta.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	4,029,000	1,475,000 <sup>a</sup>	\$81,862,000
	1925	3,589,000	1,164,000 <sup>a</sup>	110,569,000
	1926	3,817,000	55,346,000	42,603,000
Corn	1925	3,895,000	41,676,000	41,676,000
	1926	496,000	11,408,000	7,872,000
Oats	1925	413,000	7,021,000	6,108,000
	1926	540,000	414,000 <sup>b</sup>	7,889,000
Hay	1925	518,000	175,000 <sup>b</sup>	3,648,000
	1926	211,000	110,775,000 <sup>c</sup>	5,871,000
Peanuts	1925	278,000	139,000,000 <sup>c</sup>	4,726,000
	1926	51,900	39,963,000 <sup>c</sup>	9,591,000
Tobacco	1925	67,000	48,240,000 <sup>c</sup>	7,236,000
	1926	19,000	1,197,000	2,274,000
Potatoes	1925	17,000	833,000	1,749,000
Sweet potatoes	1926	110,000	9,460,000	7,568,000
	1925	110,000	5,170,000	6,462,000
Wheat	1926	114,000	1,710,000	2,565,000
	1925	99,000	1,040,000	1,893,000
Peaches	1926	.....	9,400,000	6,920,000
	1925	.....	7,304,000	10,226,000

<sup>a</sup> bales, <sup>b</sup> tons, <sup>c</sup> pounds.

**MINERAL PRODUCTION.** The value of the State's mineral products in 1924 was \$14,946,610, as against \$14,300,313 in 1923. Clay products, the largest component in these totals, attained a value of \$6,032,950 in 1924 and of \$5,739,128 in 1923. Stone was produced in 1924 in total quantity of 565,630 short tons, and in 1923, of 563,910 short tons; in value, \$4,472,628 in 1924 and \$3,942,294 in 1923. Barytes continued an important product, attaining a quantity in 1924 of 71,776 short tons, as against 83,201 short tons in 1923; valued at \$574,208 in 1924 and \$670,343 in 1923. Coal production was 74,947 short tons in 1924, and 75,620 short tons in 1923; in value, \$271,000 in 1924 and \$327,000

in 1923. Manganese and manganiferous ores, sand and gravel, iron ore and bauxite were the other chief mineral products.

The value of gold produced in Georgia during the period 1830 to 1925 was \$17,840,057, or more than one-third of the estimated total output of the Southern Appalachian States, according to the Bureau of Mines.

In 1925 four deep mines and one placer mine produced \$9683 in gold and 46 ounces of silver. The production of gold in 1924 amounted to only \$655.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending Dec. 30, 1925, were \$14,296,549. Their rate per capita was \$4.67, as against \$4.73 in 1924 and \$2.48 in 1917. Their total included \$4,715,423 for education, apportioned to minor State divisions. Expenses totaling \$236,094 for interest on debt and \$6,728,124 for permanent improvements, added to the payments for maintenance and operation of the State departments, made the total of State payments \$21,260,767. For highways was expended the sum of \$8,155,642, of which \$1,850,014 was for maintenance and \$6,305,628 for construction.

Revenue receipts of the State were \$22,524,924, or \$7.37 per capita. They exceeded by \$7,992,281 the total payments except those for permanent improvements, and furthermore exceeded by \$1,264,157 the total with these included. Property and special taxes formed 30 per cent of the revenue in 1925, as against 32.3 per cent in 1924 and 68.8 per cent in 1917. Their per capita rate was \$2.21 in 1925, \$2.16 in 1924 and \$1.93 in 1917. Earnings of the general departments and compensation for officials' services furnished 9.5 per cent of the 1925 revenue; business and non-business licenses, 35.9 per cent. License receipts were derived chiefly from taxes on incorporated companies and on sales of gasoline, and from licenses for automobiles.

The net indebtedness of the State on Dec. 31, 1925, was \$5,632,702, or \$1.84 per capita, as against \$2.07 per capita in 1924 and \$2.14 in 1917. The assessed valuation of property subject to State tax was \$1,240,848,262. The State tax levy was \$0.204,241, or \$2.03 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 6,979.40, switching and terminal companies excluded. New construction in 1926 was less than 2 miles of second track. Some 20 miles of line of the Waycross and Western railroad between Waycross and Cogdell was abandoned.

**EDUCATION.** The equalization of educational opportunities among pupils of the common schools in counties of the State, differently circumstanced in respect of financial means, was provided for by a bill to authorize the Legislature to make extra appropriation to the school fund for distribution where required to this end. This bill was passed by the extra session of the Legislature, in the spring of 1926. Three previously voted amendments to the State constitution with a bearing on education were ratified by popular vote. Of these one empowered the Governor to borrow up to \$3,000,000, as against a former limit of \$500,000, for the purpose of making prompt payment to school teachers, of salaries when due. It was provided

that interest on such a loan should be met from the funds of the State and not from the school fund. A second amendment authorized collection of vital statistics. A third empowered the board of education of Fulton County to levy an extra county-wide tax for the purpose of keeping the county's rural schools in session for a full period of nine months. It was proposed that the Legislature at its 1927 session should consider an appropriation of \$1,000,000 to a rural school fund. The Georgia Education Association attained in April, according to the *Journal of the National Education Association*, a membership of 8600.

The school population of the State in 1924, the latest year for which official figures were available, numbered 900,352. Total enrollment was 703,570, of which enrollment in common schools composed 639,591 and that in high schools 63,979. Expenditure for education in public schools in 1924 attained \$17,356,210; that for higher education was \$5,345,762; the total of the two branches, \$22,710,973. Salaries of white teachers in the schools averaged \$97.88 a month; those of colored teachers, \$49.41 a month.

**CHARITIES AND CORRECTIONS.** The chief among the State charitable and correctional institutions in 1926 were the State Training School for Boys, Confederate Soldiers' Home, State Sanitarium, Training School for Mental Defectives, Academy for the Blind, School for the Deaf and State Tuberculosis Sanitarium.

**LEGISLATION.** A special session of the Legislature held in the spring enacted important educational measures. See *Education*, above.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, United States Senator Walter F. George was reelected without opposition, and the entire Democratic ticket was elected, including Dr. L. C. Hardman, the candidate for Governor. Fort Land was elected Superintendent of Education.

The suspension of the Bankers' Trust Company of Atlanta on July 14 occasioned suspensions of numerous small banks chiefly in Georgia and some in Florida, in the latter part of July, some 117 banks in all ceasing payments. T. R. Bennett, State superintendent of banks, resigned October 15. The chief political contest of the year was that at the Democratic primary election, between Dr. L. G. Hardman and John Holder for the governorship nomination. A runoff primary was required to decide the nomination, and was held October 6, Hardman winning. The Ku Klux Klan influence in the State was reported as favoring his opponent. The Atlanta Board of Education tabled a report on the teaching of the evolution of man in the public schools, May 12. An extensive merger of electric power companies in the State was voted by stockholders at Atlanta December 15, to include the Georgia Railway and Power Co., and the Georgia Railway and Electric, the Georgia Power, The Athens Railway and Electric, the Rome Railway and Light and the East Georgia Power companies. The first and second units of the Bartlett's Ferry hydroelectric power project in West Georgia, fed by the 6000 acre lake created by the Bartlett's Ferry dam and known as Lake Harding, were put in operation by the Columbus Electric and Power Company early in the year.

**OFFICERS.** Governor, Clifford Walker; Secretary of State, S. G. McLendon; Attorney-General, George M. Napier; Treasurer, W. J.

Speer; Auditor, S. J. State; Comptroller-General, W. A. Wright; Superintendent of Education, N. H. Ballard; Commissioner of Agriculture, J. J. Brown; Commissioner of Commerce and Labor, H. M. Stanley.

**JUDICIARY.** Supreme Court: Chief Justice, Richard B. Russell; Associate Justices, Marcus W. Beck, Samuel C. Atkinson, H. Warner Hill, S. Price Gilbert, James K. Hines.

**GEORGIA (GEORGIAN SOCIALIST SOVIET REPUBLIC).** One of the three Transcaucasian republics that emerged after the Russian Revolution of 1917. After 1918 it was an independent republic; since 1921 it has been known as the Georgian Socialist Soviet Republic, and with Armenia and Azerbaijan, forms the Transcaucasian Federal Republic which is affiliated with the Union of Soviet Socialist Republics (See RUSSIA). Georgia is situated in Transcaucasia between the Black and Caspian Seas and is bounded on the north by the Caucasus, on the east by the republic of Azerbaijan, and on the south and southwest by Armenia and Turkish territory. Capital, Tiflis. Area, 25,760 square miles; population, according to the census of 1920, 2,372,403. The chief cities with their latest available populations are: Tiflis, 246,766; Kutais, 85,151; Sukhum, 61,974; and Poti, 20,741. At the end of 1923 there were 1788 schools with 195,799 pupils. The chief pursuit is agriculture, which engages about 90 per cent of the people. The methods are very primitive. The large estates have been divided among the peasants, the minimum allowance for any one family being about 17 acres. The chief product is corn, but vine-growing is carried on extensively, and the country is also rich in fruits. Silk production and bee-keeping are long established activities. There are about 12,000,000 domestic animals, and the country has vast possibilities for cattle-breeding. The chief mineral production is that of manganese, around Tchiaturi, where the greatest deposits of this mineral in the world are found. Other mineral products are naphtha, coal, copper ore, lead, and iron ore. All the basic industries were nationalized by the Soviet régime. The railways of the republic, which are all state-owned, total 970 miles. During 1926 a line from Akhal-Senaki along the Black Sea coast, through Sukhum to Tuapse, was being constructed.

**GEORGIA SCHOOL OF TECHNOLOGY.** A State Institution of higher education at Atlanta, Ga.; founded in 1888. For the autumn of 1926 the total number of collegiate day students was 2005. The registration for the summer school of the year was 473. The number of members of the faculty in the fall of 1926 was 143. The endowment of the institution amounted to \$200,000, and the income from appropriations and fees was \$423,000. During the year a new dormitory, the N. E. Harris Hall, was constructed at a cost of \$85,000. The library contained 17,950 volumes. President, Marion Luther Brittain, LL.D.

**GEORGIA, UNIVERSITY OF.** A State institution of higher education at Athens, Ga.; founded in 1801. In the autumn of 1926 there were 1521 students, an increase of 120 over 1925. The summer session was attended by 2150 students. The faculty numbered 91. The productive funds of the university amounted to \$425,000, and the income for the year from the State and other sources was \$275,000. The library contained 59,000 volumes. During the year several

small buildings were erected and the athletic building was completed, the total building expenditure for the year being about \$30,000. Chancellor, Charles M. Snelling, Sc.D.

**GERMAN COLONIES.** During the World War all the overseas possessions of Germany in Africa, the Pacific Ocean, and the Far East were captured by the Allies. In Africa they included German East Africa, German Southwest Africa, Kamerun, and Togo. All of these were divided between Great Britain and France, Southwest Africa being annexed to the Union of South Africa. In the Pacific were New Guinea, including Kaiser Wilhelm's Land, Bismarck Archipelago, German Solomon Islands, Nauru, Caroline Islands, Marshall Islands, Marianne or Ladrone Islands (with the exception of Guam), and German Samoa. In the Far East there was only the German possession of Kiaochow. The total area of the German colonies was estimated at 1,140,117 square miles and the total population was estimated at 13,258,000. See principal titles mentioned above and TANGANYIKA TERRITORY, and KENYA COLONY.

**GERMAN EAST AFRICA.** A former German colony, now administered by Belgium and Great Britain. It is located on the coast of Africa and extends from the Indian Ocean to Lakes Victoria Nyanza, Tanganyika, and Nyassa, lying to the south of Kenya Colony and Protectorate. After the War it passed under the control of Great Britain and Belgium under mandates of the League of Nations. The Belgium share included the province of Ruranda Urundi, which is administered by a royal commissioner of the Belgian government with headquarters at Kigali. The British portion is known as Tanganyika Territory (q.v.).

**GERMAN EVANGELICAL SYNOD OF NORTH AMERICA.** See EVANGELICAL SYNOD OF NORTH AMERICA.

**GERMAN LITERATURE.** When shortly after the establishment of the German Republic the young generation of her poets burst into song, not a few critics hailed them as voices of a new era, announcing the birth of a new German conscience. Franz Werfel's rhapsodic verse, published a few years before, had already struck a new note. The works of Fritz von Unruh, the plays of Georg Kaiser, who after previous tentative efforts seemed to have found himself during the great crisis, and those of the young revolutionary, Ernst Toller, were indeed teeming with a new spirit. One had reason to look forward with great expectation to the further development of that interesting group.

On looking backward to see whether they have fulfilled the promises of their auspicious débuts, even enthusiastic compatriots and admirers of those writers admit a slight disappointment. There is no doubt that Franz Werfel is the only one who has pursued a steadily upward course. His ability to turn from his early symbolical plays with their more or less radical tendency to historical drama, commands respect. Fritz von Unruh, Ernst Toller and even Georg Kaiser, who a few years before had threatened to revolutionize playwriting by his "expressionism," have produced nothing recently that can compare with their earlier work. Thoughtful critics consider expressionism a thing of the past. Thus the great upheaval in Germany has not produced equally great results in the country's literature.

**FICTION.** The year passed without any out-



standing event in the realm of fiction, although the production was enormous and represented both the older and the younger generation. Hermann Sudermann's story of the Bismarck period, *Der Tolle Professor*, and Gustav Frenssen's *Otto Buchenick* attracted little attention. Jacob Wassermann's latest work, *Aufbruch um den Junker Ernst*, proved his increasing inability to correlate matter and manner. Thomas Mann did not add to his reputation by his *Kino* and the autobiographical *Unordnung und frühes Leid*; neither did his more interesting, although less popular brother, Heinrich Mann, whose novel *Kobes* and short stories, entitled *Liliane und Paul*, lack some of his previous power. The Alsatian René Schickele published a story with the suggestive title *Der Erbe am Rhein*, Ernst Zahn, the Swiss novelist, a novel, *Die Hochzeit des Gaudenz Orell*, and short stories entitled *Schritte ins Dunkel*, Jacob Schaffner, another gifted Swiss, short stories called *Der Kreiselspieler*, Georg Ompfeda, the psychologist of German aristocracy, a story about a minor sovereign, *Ernst III*, Ernst von Wolzogen a novel of contemporary Germany, *Das Schlachtfeld der Heilande*, Wilhelm Hegeler a problem novel, *Die zwei Frauen des Valentin Key*, Max Dreyer, once prominent as playwright, the novels *Der siegende Wald* and *Das Riesenspielfeug*, Otto Ernst, poet, playwright and novelist, *Buzi, oder Morgenstunden einer Menschenseele*, Emil Strauss a story called *Kreuzungen*, Bernhard Kellermann the novel *Die Brüder Schellenberg*, Heinrich Lilienfein stories about poets, *Aus Weimar und Schwaben*, Walter von Molo a story with the poetic title *Im ewigen Licht* and Walter Bloem another patriotic novel, *Teutonen*.

All these books cover the whole gamut from pathos to humor. Little masterpieces of the latter are *Von Genies und Kameelen* by Alexander Moszkowski, the brother of the musician Moritz, and *Goldmachergeschichten* by Gustav Meyrinck, whose contributions to *Simplitissimus* have been a feature of that delectable magazine. A unique book is Theodore Lessing's *Meine Thiere*, animal stories full of spiritual and philosophical truths. Stefan Zweig, the champion and translator of Romain Rolland and other French writers, sponsors the novel *Sieg des Lebens*, by Ulrich Ebermayer, for its uplifting tendency. Arnold Ulitz's latest works, *Christine Munk* and *Barbaren*, do not reach the dramatic power of his story of the Russian debacle, *Ararat*. Lion Feuchtwanger is not likely to equal the success of his *Jud Suss* by his latest novel, *Die hassliche Herzogin Margarethe Maultasch*. Hans Franck's *Minnermann* is a well-balanced story of an upstart of the war period. Leonhard Frank, once acclaimed by the Socialists, has incurred their displeasure by his new stories *An der Landstrasse*. Hans Friedrich Blunck's *Kampf der Gestrirne* traces the first dawn of the God-idea in the human soul. Hermann Heinrich's *Dome ins Feuer*, the evolution of a German into a European mind. Frank Thies's *Narren* ably deals with problems of dementia.

The number of women novelists is great. Prominent among them by her erudition and distinction is Ricarda Huch, who proves her ability to strike a lighter vein in her grotesque story, *Der wiederkehrende Christus*. Clara Viebig's new book of short stories is entitled *Aus der Franzosenzeit*, Goethe's youthful love for Friederike Brion is retold by Anselma Heine in *Der*

*Zwoergenring*, while Marie Schneider deals with the tragedy of *Hölderlin*. Country life and types are treated by Marie Diers in *Der Jüngste Tag im Willebocker Moor*, Lisbeth Dill in *Der Grenzpfahl*, Paula Grogger in *Grimmingsdor*. Annette Kolb, who created a sensation in war-time by her refusal to join the ultra-patriots, calls her latest book *Spitzbögen*. The dean of German women writers, Marie Eugénie delle Grazie, poet, playwright and novelist, added to her long list of works *Die weissen Schmetterlinge von Clairvaux* and *Unsichtbare Strasse*.

DRAMA. Compared with the output of fiction, that of drama was very small. Nor can any one of the new plays be considered an important dramatic event. Even Gerhart Hauptmann's new play, *Dorothea Angermann*, in which he returns to his earlier manner, is inferior in content and construction to his previous work. Arthur Schnitzler's drama in verse, *Der Gang zum Weiher*, does not reach the effectiveness of his prose plays. Hugo von Hofmannsthal maintains an even standard of formal excellence and invests the story of a parricide on a fictitious Polish throne in *Der Turm* with dramatic life and poetic beauty. Karl Schönherr's latest, *Der Armendoktor*, has the "hunger blockade" of the war as background. Hermann Bahr's *Altweibersommer* is an amusing farce. Hans Müller has appeared with a problem play, *Veronica*. Hans von Wolzogen, the indefatigable champion of Wagner, has written a poetical drama, *Longinus*. Herbert Eulenberg has produced an effective farce in *Wie man's macht ist's richtig* and some less effective parodies, *Gegen Shaw*. German history furnishes the plots of Ludwig Berger's *Kronprinzessin Luise*, Herman Hirschberg's *Die deutsche Tragödie oder Bismarck und Wilhelm II.* and Leo Weismantel's patriotic dramas.

Danish history is revived in Hans Franck's *Kanzler und König*. Greek mythology in Hans Henny Jahnn's sex drama, *Medea*. Kurt Goebel's *Leute von da drüben* was praised for its delineation of characters. Paul Faesi, a Swiss writer, roused genuine interest by his play in the form of an old mystery, *Das Opferspiel*, remarkable for its spiritual content. Paul Zech failed to make Arthur Rimbaud convincing as hero of *Das trunkschiff*. Ernst Toller disappointed even his admirers by his comedy of a barber, *Der Entfesselte Wotan*, and the same can be said of Carl Sternheim's society satire *Die Schule von Uznach* and of Georg Kaiser's *Zweimal Oliver*. Franz Werfel alone seems to have produced a noteworthy work in his dramatic legend *Paulus unter den Juden*.

POETRY. Poetry is at rather low ebb in contemporary Germany. Heinrich Vierordt has sent out his collected verse, *Gedichte*, Max Bruns a book suggesting Persian influence, *Garten der Ghaselan*, Hans Brandenburg a book of sonnets, and Margarete Bruns, poems called *In sinkender Sonne*. Irene Forbes-Mosse has also published a new volume of her poems, *Gedichte*. Alfred Kerr, the distinguished critic, has suddenly appeared as the author of a volume of verse, *Capriccios*. Ernst Lissauer, of *Hymn to Hate* fame, has turned to a more normal source of inspiration in *Die ewigen Pfingsten*. Rudolf Leonhard's *Das nackte Leben* suggests the social problem. Felix Stenglin has written *Das Wartburglied* and Johannes Becher, one of the most forceful poets of the young generation, boldly calls his latest book *Maschinenrhythmus*.



LITERATURE, CRITICISM, ETC. Among the numerous books on literary subjects the most important dealing with German letters are Friedrich von der Leyen's *Geschichte der deutschen Literatur*, Oskar Walzel's *Deutsche Dichtung der Gegenwart*, and Albert Soergel's work on the same period. Noteworthy are Hanns Martin Elster's *Das Pantheon* and Hans Rohl's *Geschichte der deutschen Dichtung*. Goethe bibliography has been increased by Franz Koch's *Goethe und Platin*. Julius Bab's *Faust* and Konrad Burdach's *Vorspiel*. Heine is dealt with in a book by Hermann Wendell and in H. W. Houben's *Gespräche mit Heine*. Karl Justus Obenauer's *Hölderlin* and *Novalis* rank high among the works of the younger critics. Ernst Heilborn's *E. T. A. Hoffmann*, Richard Schaukal's *Adalbert Stifter*, Wilhelm Hess's *Wilhelm Raabe*, Wilhelm Michel's *Martin Buber*, Arthur Elowsky's *Thomas Mann* and Richard Specht's *Franz Werfel* prove the German writers' commendable quality of appreciating one another during their life-time. This appreciation sometimes takes the form of a symposium as in the volume on *Wilhelm Schmidbott*, poet, playwright and novelist, in which Stefan Zweig and other well-known writers are represented. A more ambitious book of this kind is *Liber Amicorum*, in honor of Romain Rolland's sixtieth birthday, which contains contributions from Georg Brandes, George Duhamel, Maxim Gorki, Jane Addams, Stefan Zweig and many others.

Anton Bettelheim is the author of a new study of Balzac, Alfred Klaar of Spinoza, August Vetter of Nietzsche, Julius Meyer-Graefe of Dosztojewski als Dichter, Julius Bab of Bernard Shaw and Carl Hagemann of Oscar Wilde. Meyer-Rotermund's *Des Jahrhunderts verlorene Kinder* contains a well-deserved appreciation of Johannes Schlaf, who with Arno Holz founded the German naturalistic school, but seems to be forgotten by the younger generation. Other publications are Julius Bab's *Shakespeareköpfe*, Alfred Dove's selected *Essays*, Julius Polgar's *Ja und Nein*, an analysis of criticism, Oscar Walzel's *Das Wortkunstwerk*, Otto Forst-Battaglio's *Die französische Literatur der Gegenwart*, Ernst Robert Curtius's book on the influence of the French spirit in modern Europe, M. L. Wagner's rather incomplete history of Spanish literature, Johannes Geffcken's Greek literature from the beginnings to the Sophists, Max Grube's history of the Meininger theatre, Herbert Thering's *Aktuelle Dramaturgie* and Thomas Mann's account of the origin of his *Buddenbrooks*.

BIOGRAPHY, LETTERS, MEMOIRS. The first authoritative work on *Julius Langbehn*, who had created a sensation some thirty-five years previously with *Rembrandt als Erzieher* was written by his friend Benedikt Momme Nissen. Reminiscences came from the pens of Alexander von Gleichen-Russwurm, Anselma Heine and Hermann Schlittgen. Hermann Bahr's *Die Liebe der Lebenden* is an autobiographical diary, covering only a few years. O. A. K. Schmitz's *Dämon Kienel*, the composer, has also published his autobiography. Adolf Haller and Max Konzelmann have written lives of *Pestalozzi*, Emil Königer of St. Francis of Assisi, entitled *Bruder Franz*, Helene Raff of her father Joachim Raff, the composer, and Marie von Bülow of her husband, *Hans von Bülow*. Helene Christaller's diary of *Annette von Broste-Hülshof*, Germany's

greatest poetess, is exceptionally interesting. *Im Anfang war die Liebe* is the title of a volume of Letters by Malvida von Meynsburg to her foster-daughter, Mme. Gabriel Monod, the daughter of a Russian author, Alexanzen. Hermann Pies has compiled a new volume of documents on *Caspar Hauser*. Hermann Imre is the author of a psychoanalytic study of the philosopher *Georg Theodor Fechner*. The letters of *Georg Nebuhr*, the historian, *Mörcke*, *Vischer*, *Karl Rosenkranz* and *Varnhagen von Ense* and two volumes of *Walter Rathenau's* correspondence have recently appeared.

MISCELLANEOUS. Among the books of history are Hans von Helmolt's *Friedrich der Grosse und sein Preussen*, Herman Oncken's *Napoleon und der Rhein*, and Friedrich Raimund Kaindl's *Oesterreich, Preussen, Deutschland*. Historical monographs are Günther Probst's *Die Stadt Wien* and Eugen Kalkschmidt's *Das alte Dresden*. Karl Alexander Müller published *Deutsche Geschichte und deutscher Charakter*, Carl Sternheim *Lutetia*, a review of European politics, economics and art, and Johannes Schlaf deals in his *Deutschland* with the future of his country. Books on Asia are Hans Rohde's *Kampf um Ostasien und den stillen Ozean*, Friedrich Rosen's *Persien*, Richard Wilhelm's *Die Seele Chinas*, Walter Hagemann's *Das erwachende Asien*, and India is the background of Hans Prager's *Gandhi* and Kurt Walter Goldschmidt's *Buddha und Dionysius*. Konrad Burdach writes on *Reformation, Renaissance und Humanismus*, Robert Saitschik on *Menschen und Kunst der italienischen Renaissance*, Franz Helbing's *Die Tortur* is a history of torture and Emil Lucka's *Torquemada* deals with the Spanish inquisition. Thassilo von Scheffer has compiled a volume of *Römische Götter- und Heldensagen* and Ernst Barthel writes on *Die Philosophie des Eros*. Ernst von Sydow's *Kunst und Religion der Naturvölker*, Alfred Biese's *Das Naturgefühl im Wandel der Zeiten* and Wilhelm Bilsche's book on the struggle with the unknown in nature, *Von Drachen und Zauberkünsten*, are unusually interesting. P. Th. Hofmann has compiled an anthology of religious sentiment, *Das Göttliche*, and Martin Rade's *Glaubenslehre Christus* and Gustav Schüler's *Von Stundenleid und Ewigkeit* also deal with spiritual values.

The growing trend towards mysticism is evident from August Friedrich Ludwig's *Geschichte der okkultistischen Forschung*, Rudolf Otto's *Westöstliche Mystik*, Friedrich Klein's *An der Schwelle des vierdimensionalen Zeitalters*, Rudolph Kienast's work on Rosicrucian writings, Max Kemmerich's *Das Weltbild der Mystik*, Grete Luers's *Die Sprache der deutschen Mystik des Mittelalters im Werke der Mechtild von Magdeburg* and Friedrich Strunz's *Albertus Magnus*. Hermann Keyserling published *Menschen als Sinnbilder* and *Die neuentstandene Welt*, Ernst Kraecke a book on comparative pedagogy, *Menschenbildung*, Richard Müller-Freinfels pleads for appreciation of art in *Erziehung zur Kunst*, Heinrich Spiess tries to further an understanding of England by *Kultur und Sprache im neuen England*, Victor Klemperer writes on *Romanische Sondersart* and Heinrich Kautz interprets the soul of industrialism in *Im Schatten der Schlöte*. Hermann Scheffauer continues his questionable interpretations of America in *Das geistige Amerika*. The most interesting volume of essays has come from Alfred

*Polgar: An den Rand geschrieben.* Among books of travel is Josef Ponten's *Die Iugenesische Landschaft*. Among works on art are Hugo Kehler's *Spanische Kunst von Greco zu Goya*, Carl Becker's *Die Malerei des 19. Jahrhunderts*, Dr. Albert Einstein's *Die Kunst des 20. Jahrhunderts*, Alexander Koch's *1000 Ideen*, a book on interior decoration, Dr. Wilhelm Lotz's *Gold und Silber*, and F. Perzynski's *Japanische Masken*. Music is represented by Ernst Bucken's *Musikalische Charakterköpfe* and Franz Habock's *Die Kastraten und ihre Gesangkunst*. Translations from the Scandinavian languages, Hungarian, Russian, Polish, Italian, French, English, etc., are numerous. Among the American authors thus honored are Upton Sinclair and Sherwood Anderson.

**NECROLOGY.** Among the writers who died during the year were Hans Benzmann, poet, critic and editor of a dictionary of German poets, died January 7, Otto Ernst, dramatist, novelist and critic, died March 5, August Sperl, novelist, died April 7, Wilhelm Sudel, translator of French authors, died April 20, Friedrich Klugs, philologist, died May 21, Arthur Fürst, author of technological works, died May 13, and Richard Sternfeld, author of books on Beethoven and Wagner, died June 21.

**GERMAN NEW GUINEA.** This name was applied to all the German territories in the western Pacific (See GERMAN COLONIES). They were distributed by the Treaty of Versailles as follows: Those north of the Equator, viz., the Caroline, Marshall, Pelew, and Ladrone Islands, to Japan, under mandate; those south of the Equator, viz., the Bismarck Archipelago, the German Solomon Islands, former German possessions on the island of New Guinea, to Australia, under mandate of the League of Nations. All German possessions grouped under the name of German New Guinea were formerly administered from Rabaul, the capital, in the north-eastern part of New Guinea.

**GERMANY.** A federal republic of Central Europe, constituted after the abdication of Emperor William on Nov. 9, 1918; and organized under the constitution of July 31, 1919, by the National Assembly at Weimar, elected in January of that year; formerly the German Empire; bounded on the north by the Baltic Sea, Denmark, and the North Sea; on the west by the North Sea, Netherlands, Belgium, Luxemburg, and France; on the east by Austria, Czechoslovakia, and Poland; and on the south by Switzerland, Austria, and Czechoslovakia. The German Empire consisted of 25 Federal States and the Imperial Reichsland; the Federal Republic consists of 18 republics. Capital, Berlin.

**AREA AND POPULATION.** At the census of Oct. 8, 1919, the area of the republic, including the Saar Valley, was 182,213 square miles and the population, 59,852,682, of whom 28,496,419 were males and 31,356,263 females. The accompanying table from the *Statesman's Year Book* for 1926, gives area and population according to that census, as revised down to June 16, 1925:

	Area English sq. miles	Population June 16, 1925	Pop. per sq. mile 1925
Prussia *	113,256	36,181,043	337
Bavaria * (with Coburg)	29,343	7,899,609	252
Württemberg	7,532	2,594,283	344
Baden	5,819	2,327,086	400

	Area English sq. miles	Population June 16, 1925	Pop. per sq. mile 1925
Saxony	5,789	4,973,519	859
Mecklenburg-Schwerin	5,082	687,899	135
Thuringia	4,527	1,628,533	360
Hesse	2,970	1,358,719	457
Oldenburg	2,480	558,539	223
Brunswick	1,418	508,817	358
Mecklenburg-Strelitz	773	112,048	145
Anhalt	888	351,506	396
Lippe	469	166,038	354
Waldeck	407	59,153	145
Schaumburg-Lippe	131	48,659	371
Hamburg	160	1,128,769	7,055
Lübeck	115	127,560	1,109
Bremen	99	333,368	3,367
Total	181,257	62,539,098	345

\* Excluding the Saar.

The losses under the Treaty of Versailles (June 28, 1919) were as follows: (1) Alsace-Lorraine, returned to France, 5604 square miles, with a population of 1,874,014; (2) a part of Eastern Silesia, the larger part of West Prussia, and a part of Upper Silesia (by plebiscite), ceded to Poland, 17,787 square miles with a population of 3,853,354; a part of Upper Silesia, ceded to Czechoslovakia, 110 square miles and 45,396 population; Eupen and Malmedy, to Belgium, 386 square miles and 60,924 population; Memel, to the Allies, 1057 square miles and 140,746 population; Danzig, to the Allies, made a free city, 794 square miles and 330,252 population. Provision was made to determine the status of certain regions by plebiscite: The Saar Basin, area 742 square miles and 652,818 population was to be under the League of Nations for 15 years, then to determine its destiny by plebiscite; Schleswig to decide between Germany and Denmark; regions of the southern part of East Prussia, in West Prussia, and in Upper Silesia. The plebiscite for Schleswig was held in March, 1920, when the northern zone, comprising 1537 square miles and a population of 166,895, decided for Denmark and was ceded to that country. The plebiscite in Upper Silesia, held in March, 1921, gave a majority for Germany, but the territory was divided according to the vote, and 1255 square miles with a population of 891,669, was annexed to Poland.

In 1924 the movement of population was: Births, 1,311,044; deaths, 802,166; marriages, 440,071. In 1925, 62,643 German nationals emigrated from the country, as against 58,328 in 1924. The various occupations represented in these departures were distributed as follows: Agriculture, 12,812; industries, 19,187; commerce and transportation, 8838; domestic service and similar employment, 6863; and the professional class, 2483. Of the 19,187 industrial workers who left, the largest single group comprised mining, metal, and machine workers. Among the more important German states, Prussia contributed 28,714; Bavaria, 7592; Württemberg, 5005; and Saxony, 3694. Most of the emigrants went to the United States and Brazil. The cities with more than 500,000 inhabitants at the census of June 16, 1925, were Berlin (including suburbs), 3,931,071; Hamburg, 1,053,983; Cologne, 693,266; Munich, 671,548; Leipzig, 660,140; Dresden, 608,025; and Breslau, 553,029.

**EDUCATION.** Primary education is free and compulsory throughout Germany between the ages of 6 and 14. The latest educational statistics

are those gathered in the school census of 1922, when there were 52,763 public elementary schools with 146,933 male teachers and 49,013 female teachers and 8,894,486 pupils. There were also 675 private schools of a similar nature with 35,584 pupils. In the same year there were for boys; 515 Gymnasias, with 10,051 teachers and 152,367 pupils; Realgymnasias, 322, with 6078 teachers and 115,615 pupils; Oberrealschulen and Realschulen, 506, with 9404 teachers and 184,175 pupils; for girls, high schools, 824, with 14,852 teachers and 299,285 pupils. There are ten fully equipped technical high schools, with the power of granting degrees. These had 1833 teachers, and 21,817 pupils in 1924. In addition there are veterinary, agricultural, forestry, mining, commercial, economic, science, art, and other special institutions.

The accompanying table from the source mentioned above, shows the number of universities, with the date of founding, and the number of professors, teachers, and students in 1924:

<i>Universities</i>	<i>Professors and Teachers</i>	<i>Students</i>
Berlin (1809) . . . . .	596	9,950
Bonn (1786-1818) . . . . .	233	2,486
Breslau (1702) . . . . .	229	4,153
Cologne (1388-1918) . . . . .	142	4,161
Erlangen (1743) . . . . .	102	1,501
Frankfort (1914) . . . . .	207	2,683
Freiburg (1457) . . . . .	160	2,913
Gießen (1607) . . . . .	158	1,623
Göttingen (1737) . . . . .	208	2,382
Griesswald (1456) . . . . .	130	1,106
Halle (1694) . . . . .	195	2,381
Hamburg (1919) . . . . .	239	2,422
Heidelberg (1385) . . . . .	197	2,319
Jena (1557) . . . . .	179	2,033
Kiel (1665) . . . . .	164	1,724
Königsberg (1514) . . . . .	174	1,739
Leipzig (1409) . . . . .	303	4,578
Marburg (1527) . . . . .	152	2,153
Munich (1472-1826) . . . . .	338	7,231
Münster (1780) . . . . .	141	2,692
Rostock (1419) . . . . .	106	980
Tübingen (1477) . . . . .	136	2,450
Würzburg (1582) . . . . .	124	2,504
Total . . . . .	4,613	68,114

The students were divided among the several faculties as follows: Theology, 3799; Jurisprudence, 29,669; Medicine and Dentistry, 10,540; Philosophy, 9621; Mathematical and Natural Science, 12,360; and Auxiliary Science, 2125.

PRODUCTION, INDUSTRIES, ETC. At the beginning of June, 1925, the soil of Germany was divided as follows: Arable land, 50,829,427 acres; grass, meadows, and pasturage, 19,832,222 acres; vineyards, 200,495 acres. The accompanying table from an English authority shows the area under the principal crops in acres and yields in metric tons (one metric ton equals 2204 pounds) for 1924 and 1925:

	<i>Area (acres)</i>		<i>Produce (metric tons)</i>	
	<i>1924</i>	<i>1925</i>	<i>1924</i>	<i>1925</i>
Wheat	3,666,190	3,748,079	2,427,632	3,217,300
Rye	10,629,559	10,976,708	5,729,868	8,062,900
Barley	3,613,162	3,575,928	2,399,910	2,599,100
Oats	8,814,505	8,624,545	5,654,003	5,584,500
Potatoes	6,904,625	6,988,230	36,402,241	41,918,400
Sugar beets	985,967	995,410	10,266,586	10,325,900
Hay	13,629,005	13,504,231	23,240,700	22,603,300

In 1924 the area devoted to the cultivation of the vine was 185,855 acres and the wine

yield, 39,686,988 gallons; tobacco, 23,817 acres, yield, 21,524,245 kilos; the sugar production in 1924-25 was 1,578,560 metric tons. The live-stock census of Dec. 31, 1925 showed 3,194,820 horses, exclusive of army horses; 17,182,724 cattle; 4,741,897 sheep; 16,159,766 swine; and 3,792,429 goats.

The minerals include coal, lignite, iron ore, zinc ore, lead ore, copper ore, rock salt, and potash. In 1925 the output of coal was 132,729,000 tons; of lignite, 139,790,000 tons; and of coke, 26,810,000 tons. For a discussion of the nonferrous minerals in Germany see the preceding YEAR BOOK.

The United States Bureau of Foreign and Domestic Commerce reported in August, 1926, that German companies, which in the business year 1913-14 averaged net profits of 10.5 per cent on capital, earned only 4.4 per cent in the year ended June 30, 1925. Of the total number of companies, 69 per cent with 40 per cent of the total capitalization failed to pay any dividend, although 65 per cent showed profits. The greater number of companies failing to declare dividends, however, had a capitalization of less than 50,000 marks; the companies with a capitalization between 1,000,000 and 25,000,000 marks showed the highest percentage of dividend declarations. Another analysis of stocks quoted on the Berlin Bourse states that, measured according to the yield on the market value, the companies so measured and in existence both now and before the War, averaged 4.6 per cent in the first half of 1926, as compared with 5.8 per cent in the first half of 1914. This decline becomes more striking when it is considered that general interest rates have risen to about 10 per cent, from a pre-war average of about 4½ per cent. The necessity of building up operating funds wiped out by currency inflation had caused share companies to sacrifice a portion of possible dividends.

The rapid readjustment of German industry, which during the War and inflation periods was largely in the form of vertical trusts, had been necessitated by the pressure of business depression and financial stringency. This change is usually dated from June, 1925, at the commencement of the liquidation of the Stinnes group and has been characterized by horizontal fusions of principal producers into one or more groups, with the absorption of smaller firms or their elimination through bankruptcy. Such a shift has been evident in coal, iron and steel, chemical, machinery, and many finishing industries. The German statistical office published an analysis of the statements of 7666 companies, which comprise three-fourths of the total capitalization of German share companies. The analysis indicated that the earning capacity of Germany in 1926 was considerably less than before the War, in spite of the writing off of bonded indebtedness which occurred after currency inflation. On the other hand, considerable progress had been made since the beginning of the stabilization period. The gradual elimination of weak firms and the consolidation of those remaining apparently pointed to a general reorganization of German industry on a better profit-earning basis. The accompanying table, published by the Reichscreditgesellschaft, a semi-official institution, analyzes a much smaller number of companies than the survey of the

statistical office, and is restricted to the more important concerns, but it shows market valuations and other information not given by the statistical office:

this percentage rose slightly to 16.52. Of the American exports to Germany 43 commodities each exceeded \$100,000 in value and together totaled \$410,342,707. Of these commodities 28

COMPARISON OF GERMAN COMPANIES IN 1926 AND 1914  
[Values in thousand reichsmarks]

Class of companies	Number of companies	Nominal capitalization	1914 (first half)	Dividend in per cent of—	
			Valuation of stock on Berlin Bourse, June 25, 1914	Capital	Bourse value
Banking .....	43	2,031,680	3,064,450	8.4	5.6
Insurance .....	6	11,250	44,060	32.9	8.4
Transportation .....	27	557,350	701,960	8.4	6.7
Industry:					
Coal, iron, and steel .....	41	1,005,710	1,876,450	10.8	5.8
Construction .....	39	153,350	199,360	8.0	6.1
Machinery .....	45	227,480	366,500	10.2	6.8
Electrical .....	23	609,750	1,086,430	9.0	5.0
Chemical .....	18	252,120	893,180	19.5	5.5
Textile .....	38	140,500	233,760	10.8	6.2
Paper .....	10	70,560	107,170	9.7	6.4
Glass .....	13	50,620	115,790	16.6	7.2
Brewery .....	24	73,470	129,200	10.1	5.8
Other .....	59	334,120	569,910	10.9	6.4
Total industry .....	310	2,917,080	5,577,030	11.0	5.8
Grand total .....	386	5,517,960	9,388,220	9.8	5.8

Class of companies	Number of companies	Nominal capitalization	1926 (first half)	Dividend in per cent of—	
			Valuation of stock on Berlin Bourse, June 25, 1926	Capital	Bourse value
Banking .....	60	938,750	1,232,670	9.0	6.8
Insurance .....	26	55,670	60,900	6.3	5.4
Transportation .....	40	639,660	681,180	5.1	4.7
Industry:					
Coal, iron, and steel .....	47	1,671,670	1,979,270	2.4	2.0
Construction .....	46	176,520	146,560	5.5	6.6
Machinery .....	70	391,570	315,560	3.7	4.6
Electrical .....	32	657,050	868,450	6.9	5.2
Chemical .....	26	791,750	1,633,540	8.5	4.1
Textile .....	60	312,400	330,480	5.5	5.0
Paper .....	16	89,000	92,950	7.9	7.6
Glass .....	24	96,380	95,600	6.3	6.3
Brewery .....	37	216,080	305,890	9.5	6.5
Other .....	113	682,870	587,820	4.4	5.2
Total industry .....	471	5,085,290	6,156,100	5.1	4.1
Grand total .....	597	6,719,370	8,718,670	5.6	4.3
Pre-war survivors in 1926 .....	568	6,657,000	8,130,890	5.6	4.6

COMMERCE. Germany's export trade in 1925 totaled 8,838,000,000 gold marks and her import trade 13,146,300,000 gold marks, leaving an unfavorable balance of 4,308,300,000 gold marks, as compared with 2,749,987,000 gold marks in 1924. The import and export trade according to categories in 1925 was as follows: Live animals, imports, 122,000,000 marks, exports, 15,300,000; foods and beverages, imports, 4,032,200,000 marks, exports, 516,900,000; raw materials and semi-manufactured articles, imports, 6,269,000,000 marks, exports, 1,640,400,000; manufactured articles, imports, 2,005,000,000 marks, exports, 6,625,800,000; gold and silver, imports, 718,100,000 marks, exports, 39,600,000.

According to the United States Bureau of Foreign and Domestic Commerce, the total trade of the United States with Germany in 1925 amounted to \$634,595,756, or \$54,919,370 more than in 1924. The gain in exports was slightly greater than the gain in imports from that country, as shown by an increase in the first case of \$29,928,282 and in the second case of \$24,993,088. In 1924 the American trade with Germany represented 16.36 per cent of the American trade with all Europe, and in 1925

showed gains during 1925 while 15 registered losses. The most important gain was made by cotton, its export to Germany amounting to \$246,315,328 as compared with \$223,503,127 in 1924. These figures, however, are somewhat misleading, as a considerable portion of this cotton is merely shipped to German ports with an ultimate destination other than Germany. Copper, rye, lead, passenger automobiles, barley, sulphur, lubricating oils, calculating and adding machines, rosin and gasoline exports also showed gains.

Among the 15 articles of export which suffered losses in 1925, wheat showed the severest drop; exports of grain fell from \$10,217,906 in 1924 to \$4,302,148 in 1925, and flour declined from \$10,749,815 to \$8,573,873. This situation may be accounted for in large measure by a banner crop in Germany and successful competition on the part of Russia, Canada, and Argentina. Other important articles which lost ground were lard, tobacco, condensed and evaporated milk, prunes, and cottonseed cake.

Imports from Germany in 1925 totaled \$164,251,523, as compared with \$139,258,435 in 1924. These figures represent 12.7 per cent of the

total imports of the United States from Europe in 1924 and 13.26 per cent in 1925. During 1925 the most notable imports from Germany were colors and dyes, and these commodities showed at the same time the heaviest gain, rising from \$2,079,959 in 1924 to \$3,757,846 in 1925. Other goods supplied to the United States by Germany were sulphite, decorated china, leather gloves, machine-made laces, wools, and newsprint paper.

REPARATIONS. German deliveries of coal, coke, and briquets on reparations account to France, Italy, and Belgium in 1925 were almost 5,000,000 metric tons less than in 1924, the record year. Deliveries of 7,056,000 tons of coal and 2,056,000 of coke, however, were made during the first eight months of the year 1926, in comparison with 5,156,000 tons of coal and 2,413,000 of coke during the January-August period of 1925. Reparations deliveries to Belgium were discontinued in September, 1926. Coke deliveries to France on reparations account had been nearly as large as deliveries of coal to that country but no coke was included in the deliveries to Italy and the amounts sent to Belgium were insignificant. Monthly deliveries to these countries during the first eight months of 1925 and 1926 are shown in the accompanying table:

GERMAN REPARATIONS DELIVERIES OF COAL TO FRANCE, ITALY, AND BELGIUM  
[In thousands of metric tons]

Month	France (coal and coke)		Italy (coal)		Belgium (coal)	
	1925	1926	1925	1926	1925	1926
January	656	710	200	224	178	294
February	652	747	101	250	204	244
March	608	713	133	257	208	260
April	532	672	107	316	206	240
May	546	663	132	283	213	241
June	525	508	130	276	207	219
July	651	506	134	246	187	242
August	651	499	150	272	258	200
Total	4,821	5,048	1,087	2,124	1,661	1,940

Germany made small deliveries in 1919, but no important quantities were delivered until 1920. Annual quotas were originally fixed on an ascending scale—Italy, for example, was to receive 2,250,000 tons in 1919, 5,250,000 in 1920, 6,750,000 in 1921, 7,750,000 in 1922, and 8,250,000 in 1923. In the latter part of 1923 the Mission Interalliée de Contrôle des Usines et des Mines arranged a monthly programme of deliveries. During the early part of that year the Ruhr was occupied by the French, the occupation continuing into 1924. The Dawes Plan went into effect Sept. 1, 1924. The amounts or prices allowed Germany against reparations deliveries are based on the pithead price in Germany except when the British f. o. b. price is lower. The State-owned railways in France, Italy, and Belgium have received large quantities of reparations coal. The French railways in 1924, for instance, took 1,660,456 tons out of deliveries of 3,320,221. Their merchant trade accounted for over 1,000,000 tons of this total, and a certain tonnage was assigned to electric power stations, navigation, and other enterprises. The accompanying table shows approximately the reparations deliveries made annually prior to 1926:

GERMAN REPARATIONS DELIVERIES OF FUEL (COAL, COKE, AND BRIQUETS) TO FRANCE, ITALY, AND BELGIUM

Year	France Metric tons	Italy Metric tons	Belgium Metric tons	Total Metric tons
1919...		77,000		77,000
1920...	11,218,000	987,000	1,431,000	13,636,000
1921...	12,099,000	2,765,000	2,809,000	17,673,000
1922...	8,587,000	2,621,000	2,820,000	14,028,000
1923...	4,124,000	1,480,000	1,574,000	7,178,000
1924...	10,177,000	3,672,000	4,382,000	18,231,000
1925...	8,747,000	1,723,000	2,903,000	13,373,000

FINANCE. According to the United States Bureau of Foreign and Domestic Commerce, a noticeable change in both volume and character of German Federal revenues and expenditures occurred in the fiscal year ended Mar. 30, 1926 as compared with the previous fiscal year. The reduced rates for the principal taxes resulted in declining receipts as compared with 1924-25, when the pressure of taxation was approximately the same throughout the year and when increased business turnover caused a gradual rise in revenues. A comparative analysis of the monthly revenue and expenditure figures for the two years show that individual tax yields vary greatly from the earlier year.

The economic crisis had an irregular effect on revenues. As the money market and the bourse were the first to feel the effects of the depression at the beginning of the fiscal year, the bourse and capital transfer taxes were affected first. Depression had pervaded business at about the middle of the fiscal year, when the turnover and corporation taxes showed a corresponding decline. Domestic consumption, which remained active, was first checked at the beginning of 1926. Consumption taxes, therefore, show actual increases up through December, 1925, declining only through the quarter beginning January, 1926. Preliminary figures, based on the monthly reports of the central treasury, show total Federal receipts for the 1925-26 fiscal year of 6,856,100,000 marks—a drop of 455,600,000 marks from the 7,311,700,000 marks collected in 1924-25. In 1925-26 the quarterly receipts dropped from 1,825,100,000 in the first quarter to 1,573,100,000 marks in the last quarter. This decline in revenues as a result of reduced taxation contrasted with the returns of the fiscal year 1924-25 when, with an approximately stable taxation burden, quarterly revenues advanced from 1,514,800,000 marks to 2,018,700,000 marks, through increasing business activity.

The 1925-26 fiscal year marks the definite abandonment by the German Government of its policy of heavy taxation to attain a budget surplus, which had been followed since the stabilization of the currency in November, 1923. During that period, industry became the main object of fiscal pressure. This past policy was based not only on the necessity of supporting the newly stabilized currency, but also of obtaining by taxation the necessary operating capital formerly provided by the discounting of treasury bills at the reichsbank. Upon the inauguration of the Dawes Plan (q.v.), a discount of treasury bills at the reichsbank was limited to 100,000,000 marks. It was semi-officially estimated that the operating capital requirements for the German Government were approximately 600,000,000 marks.

On the first of June, 1925, the wage tax had

been reduced so that the limit for tax-free incomes was raised from 720 to 960 reichsmarks. Among other income taxes, the tax reduction ordinance of Nov. 10, 1924, had affected the entire fiscal year 1925-26. Further reductions were provided in a tax revision law. The turnover tax of Jan. 1, 1925, was reduced from 2 per cent to 1½ per cent and again on Oct. 1, 1925, to 1 per cent. Tax rate reductions as of Sept. 1, 1925, occurred in wine, capital transfer, real estate, and bills of exchange. Increases occurred only in tobacco tax rates and in customs tariffs.

The total income of the German Government in the fiscal year 1925-26, available for expenditures, was 341,800,000 marks less than in the previous fiscal year. This reduction was accompanied by an increase in expenditures of 650,300,000 marks and resulted in a deficit of 462,700,000 marks. From the previous fiscal year,

<i>Estimated receipts</i>		<i>Gold reichsmarks</i>
Ordinary .....		7,400,000,000
Extraordinary:		
Balance from ordinary expenditures .....	294,200,000	•
Other receipts .....	6,800,000	
	<hr/>	801,000,000
Grand total receipts .....		7,701,000,000
<i>Estimated expenditures</i>		
Ordinary:		
Permanent .....	6,800,000,000	
Nonrecurring .....	249,000,000	
Other expenditures .....	56,600,000	
Total .....	7,105,800,000	
Credit balance .....	294,200,000	
	<hr/>	7,400,000,000
Extraordinary ..		801,000,000
Grand total expenditures .....		7,701,000,000

RECEIPTS AND EXPENDITURES OF THE GERMAN GOVERNMENT FOR THE FISCAL YEAR 1925-26  
[In million reichsmarks, exchanging at par of \$0.2382]

<i>Item</i>	<i>1924-25</i>	<i>1925-26</i>	<i>Difference, 1925-26</i>
<i>Receipts</i>			
Taxes (property):			
Income .....	2,210 6	2,253 0	+ 42 4
Corporation .....	313 8	186 5	- 127 3
Property .....	499 0	270 4	- 228 6
Turnover .....	1,913 6	1,416 0	- 497 6
Capital transfer .....	168 0	103 4	- 64 6
Transportation .....	313 1	318 1	+ 5 0
Other .....	260 6	285 1	+ 24 5
Total recurrent .....	5,678 6	4,832 5	- 846 1
Nonrecurrent .....	78 8	59 9	- 18 9
Total property tax .....	5,757 5	4,892 4	- 865 1
Taxes (customs and consumption):			
Customs .....	356 4	590 4	+ 234 0
Tobacco .....	513 1	615 8	+ 102 7
Beer .....	195 7	255 9	+ 60 2
Alcohol .....	141 5	153 1	+ 11 6
Sugar .....	217 6	236 2	+ 18 6
Wine .....	93 9	80 0	- 13 8
Other .....	29 3	31 0	+ 1 7
Total .....	1,546 7	1,962 8	+ 416 1
Other sources .....	6 8	1 1	- 5 7
Grand total collected .....	7,311 7	6,856 1	- 455 6
Deduction for collections creditable to other fiscal years .....	136 0	22 2	- 113 8
Total receipts available for current fiscal year's expenditures .....	7,175 7	6,833 9	- 341 8
<i>Expenditures</i>			
Transfer to states and communes .....	2,629 5	2,541 5	- 88 0
Reparations account .....	459 9	299 8	- 160 1
Administration, etc. ....	3,670 4	4,799 7	+ 1,129 3
Gold-loan repurchases .....	230 9	•	- 230 9
Total .....	6,990 7	7,641 0	+ 650 3
Surplus (+) or deficit (-) .....	+ 659 0	- 462 7	.....

however, there remained a surplus of 659,000,000 marks, more than sufficient to cover the deficit of the fiscal year closed on March 30, 1926.

The preliminary estimates of the 1926-27 budget showed that it would be balanced at 7,700,000,000 reichsmarks and that in all likelihood the actual expenditures for 1925-26 would not be exceeded. In considering the receipts and expenditures for the ordinary and extraordinary budget as shown below, it should be remembered that the figures are purely tentative and therefore subject to certain changes when voted upon by the Reichstag. Amounts are stated in gold reichsmarks, for which the unit value is \$0.2382 in exchange.

**RAILWAYS.** The total mileage of German railways on Sept. 30, 1924, was 53,008.54 kilometers, of which 30,370.35 kilometers belonged to the main-line system, 21,670.27 kilometers to the secondary system, and 967.92 kilometers to the narrow-gauge system. The total mileage represents an increase of 88.8 kilometers in the six months following Mar. 31, 1924. On Sept. 30, 1924, the rolling stock of the state railways comprised 30,210 locomotives, 68,499 passenger cars, 23,025 baggage cars, and 707,306 freight, repair, and service cars, whereas on Mar. 31, 1924, there were 30,371 locomotives, 68,446 passenger cars, 22,966 baggage cars, and 708,279 freight, repair and service cars.

The year 1926 is the second one in which the German railroads under the management of the German State Railway Company, helped carry out the Dawes Plan. The first fiscal year of the company required the installation of numerous innovations, in order to handle the work more economically, and to attain greater income. The second fiscal year was devoted to the systematic continuation of these steps, which were to place the State Railway Company in the position to fulfill its duty of chief contributor to the reparations payments, and, at the same time, to manage the property in such a way as to serve the interests of German economic life. Toward the end of the year great improvement in the financial situation of the German Railroad Company was reported to be taking place. For the first half of 1926, revenue approximated 2,005,000,000 marks, while expenses totaled 2,105,000,000 marks. In July, however, the railroads showed the first monthly surplus for the year which amounted to 10,000,000 marks. August and September were expected to yield larger surpluses than that of July. The corporation was bearing up well under the burden of an increase since 1925, of 277,000,000 marks annually in the wage scale, and a yearly increase in pensions of 270,000,000 marks more than in 1913.

**SHIPPING.** On June 30, 1925, the German merchant marine amounted to 3,073,713 registered gross tons as compared with 5,459,296 in 1914. In 1924, 53,809 vessels (with freight) of 27,218,103 tonnage and 9473 vessels (in ballast) of 2,811,049 tons entered the ports of Germany, and 44,766 vessels (with freight) of 20,653,323 tonnage and 21,211 of 8,949,385 tons cleared.

**GOVERNMENT.** Under the constitution of the republic adopted July 31, 1919, and promulgated Aug. 11, 1919, executive power is vested in the president elected by the people for seven years, and in a ministry appointed by him and responsible to the parliament or Reichstag. Legislative power is vested in the Reichstag, which is elected by universal, equal, direct, secret franchise of male and female voters, on the principle of proportional representation; and in a federal council, the Reichsrat, consisting of 68 members (Prussia 27, Bavaria, 11, Saxony, 7, Württemberg, 4, Baden, 3, other states, 16. The consent of the Reichsrat is required to all bills before their introduction in the Reichstag. In the Reichstag elected Dec. 7, 1924, the seats were divided among the political parties as follows: Socialists, 131; Centre, 99; German National People's Party, 111; German People's Party, 51; German Democratic Party, 32; Bavarian People's Party, 19; Communists, 45; minor parties, 35; total, 493.

The president in 1926 was Paul von Hindenburg, elected Apr. 26, 1925; assumed office, May 12, 1925. The cabinet as appointed Jan. 19, 1926, was: Chancellor, Dr. Luther; Foreign Affairs, Dr. Stresemann; Home Affairs, Dr. Kütz; Finance, H. Reinhold; Defense, Dr. Otto Gessler; Labor, Dr. Heinrich Brauns; Food and Agriculture, Dr. Haslinde; Posts, H. Stingl; Transport, Dr. Krohne; Economic Affairs, Dr. Curtius; Justice and Occupied Territories, Dr. Marx.

### HISTORY

**SITUATION AT THE BEGINNING OF THE YEAR.** As noted in the preceding YEAR BOOK, Chancellor

Luther resigned his position during the first week of December but decided to remain in office until President Hindenburg could find a successor. After a month and a half of delay and squabbles, Luther was again asked to form a new cabinet which he did on January 19. The members of the new body are given above under the paragraph on *Government*. The chief delay in the formation of a new government was the contest over the position of Secretary of the Interior. The Democrats wanted the position for their leader Dr. Koch, who had been unable to form a cabinet in December. The German People's Party wanted the position for Herr Curtius. Hindenburg finally became so exasperated that he gave the quarreling politicians four hours to reach a decision in lieu of which, he hinted at some form of dictatorship. Stresemann, Gessler, Stingl, and Krohne were members of the former cabinet of Chancellor Luther. The Socialists, although the strongest party in the Reichstag, were not represented in the new government, although they were strong supporters of Luther in his foreign policies.

On January 26, Luther appeared before the Reichstag and stated the policies of the government. They included the need for private and public economy, the settlement of the unemployment situation, financial assistance for the farmers, and international regulation of tariff questions. "The command of the hour is to labor objectively and practically for the rehabilitation of German trade and the German people. The more resolutely and powerfully this works, supported by all sections of the people, the sooner will Germany recover that position in the world to which the greatness and capability of her people entitle her." On January 28 the Chancellor received a vote of confidence, 160 to 150, although the Socialists and Economic Union, which controlled 131 votes, refused to vote. The real reason, probably, why the vote of confidence was given was because the opposition realized that the Chancellor had the power to dissolve parliament and would have done so had the vote been adverse. The opposition parties did not care to go before the people just then.

On January 30, the British forces withdrew from the Cologne zone, and the administration of the district reverted to Germany. President Hindenburg completed the liberation of the Cologne district by a triumphant tour through the district on March 21. He said in a speech, "To all of us the Rhine symbolizes the eventful history of Germany. Here the German Emperors and Kings were chosen and crowned. The severe trials to which the German men and women have been subjected in the last few years have furnished proof that Germany's mission is not yet fulfilled and that it is not doomed to destruction."

**GERMANY AND THE LEAGUE.** On February 10, Germany presented her application for admission to the Secretary-General, Sir Eric Drummond, of the League of Nations. The failure of the League to act upon this immediately caused a two-day debate in the Reichstag. Foreign Minister Stresemann defended the position of Germany and her actions at Geneva (See LEAGUE OF NATIONS) and asserted that she had gained prestige in the eyes of the world by those actions. Chancellor Luther stated that Germany must gain membership in the League for the

sake of the Locarno Pact, which he declared was the fundamental backbone of German foreign policy. The only opponents of the government's policies were the Nationalists and the Communists who bitterly denounced Locarno and the League. A vote of confidence in the government was passed.

In the middle of April it was announced that the German government would participate in the special Council Reorganization Committee of the League of Nations to consider possible changes that might occur as a result of the failure to admit Germany to membership. Stresemann concluded his announcement with the following statement: "I take the liberty of pointing out that the German representative, in view of the fact that Germany is not a member of the League, will inevitably be in a different position in the proceedings of the commission from representatives of the other powers concerned. Not only must this special position of Germany be taken into account by the German representative, but it also makes it necessary to state expressly that participation by this representative in the deliberations of the committee cannot affect the freedom of decision of the German Government as regards Germany's entry into the League."

**GERMANY AND RUSSIA.** As if in answer to the failure to take Germany into the League, there was published the text of a treaty with Russia in Berlin on April 26. The provisions of this treaty as published in *Current History* for June are as follows:

Art. 1—The basis of relations between Germany and the Soviet Union remains the Treaty of Rapallo. The German Government and the Government of the Soviet Union will remain in friendly contact with one another in order to insure mutual understanding in all questions of a political and economic nature affecting their two countries.

Art. 2—Should one of the contracting parties, despite its peaceful demeanor, be attacked by a third power or by several other powers, the other contracting party shall preserve neutrality throughout the entire duration of the conflict.

Art. 3—Should a coalition among other powers in connection with a conflict such as is foreseen in Article 2, or at a time when neither of the contracting parties is engaged in warlike activities, be organized for the purpose of imposing an economic boycott against one of the contracting parties, the other contracting party will not participate in such coalition.

Art. 4—This treaty shall be ratified and ratification proclamations shall be exchanged in Berlin. The treaty thereupon goes into effect and is valid for a period of five years. The two contracting parties will reach an understanding over the further status of their political relations before the termination of this period.

An appendix to the treaty consisted of a letter from Foreign Minister Stresemann to M. Krestinsky and the Russian Ambassador's reply. It was declared categorically that these communications had equal force with the treaty proper. Dr. Stresemann's letter read in part:

1. Both Governments are agreed that the underlying principle of reciprocal understanding recorded in the first article of the treaty with regard to all political and economic questions jointly affecting the two nations will contribute materially to the preservation of universal peace. In any case, both Governments in their discussions will be guided by the necessity of maintaining peace.

2. In this sense both Governments have dealt with basic questions associated with Germany's entrance into the League of Nations. The German Government is convinced that Germany's membership in the League offers no obstacle to a friendly development of Russo-German relations. The League in its fundamental conceptions is designed for peaceful and just settlement of international disputes.

The German Government is resolved to devote its

energies to the realization of this conception. Should however, there arise within the League of Nations tendencies which, in contradiction with this basic idea of peace, would be directed solely against the Soviet Union—which the German Government does not suppose—Germany would oppose such tendencies with all her power.

3. The German Government assumes that this basic orientation of German policy toward the Soviet Union cannot be influenced through faithful observance of obligations which may be imposed on Germany after her entry into the League by Articles 16 and 17 of the League Covenant. Punitive undertakings against the Soviet Union could be contemplated only if the Soviet Union started an aggressive war against another State.

In this connection it must be recalled that the question as to whether the Soviet Union is the aggressor in an armed conflict with a third State can be decided with binding effect for Germany only with Germany's consent, and that thereby accusations raised by other States against the Soviet Union and not considered justified in German eyes would not oblige Germany to take part in any measures initiated under Article 16. As to the question whether and to what extent Germany in a concrete case would be obliged to participate in any punitive measures whatever, the German Government refers to its note of Dec. 1, 1925, regarding interpretation of Article 16 addressed to the German delegation on the occasion of the signing of the Locarno treaties.

4. In order to create a sure basis for the harmonious settlement of all questions arising between them, the two Governments deem it opportune to negotiate a general treaty for the peaceful solution of such disputes, in which connection special consideration shall be given to the possibilities of arbitral processes.

M. Krestinsky's answering note merely reaffirmed Dr. Stresemann's declaration that the two nations desired the promotion of world peace, recorded without comment his observations on Germany's ultimate relations with the Locarno progress, and reiterated in the same words Dr. Stresemann's declaration about the future conclusion of an arbitration treaty. The press of Europe was hostile to this arrangement with the possible exception of that of Great Britain, where public opinion regarded the treaty as bringing Russia nearer to the League.

**CABINET CHANGES.** On May 12, the Luther cabinet was forced to resign because of its inability to satisfy the Reichstag on the so-called flag question. The Luther cabinet had decreed that all foreign representatives of Germany abroad should place the old imperial colors of black, white, and red alongside the republican colors. On a resolution disapproving this measure the Nationalists refrained from voting and the Democratic Party, which belonged to Luther's coalition, approved it, with the result that the government's action was condemned by a vote of 176 to 146. The failure of the Nationalists to vote for a measure which they most certainly ought to approve gave rise to numerous rumors that they acted in that manner because they were planning a widespread monarchist revolution which would come into power as soon as Luther was forced out of office. Although there was some evidence of such a movement, it seems that it was grossly exaggerated.

On March 16, former Chancellor Marx accepted the Chancellorship and announced that he would keep the remainder of the Luther cabinet. The regulation of the Luther government concerning the use of the imperial flags was to be carried out until such time as a commission could find a compromise flag.

**QUESTION OF FORMER RULERS' PROPERTY.** Throughout the first half of the year there had been an insistent demand on the part of the Socialists and Communists for the confiscation of the property of former rulers of Germany. The Nationalists and the People's Party were



opposed to expropriation, as was the majority of the Centre. Those favoring confiscation began early in the year to circulate a petition to bring about expropriation. According to the German constitution if 10 per cent of the voters at the last national election demand a referendum on a subject that referendum must be held. Germany has approximately 40,000,000 voters so it was necessary to obtain the signature of only 4,000,000. On April 14, 12,523,939 persons had signed a petition for the expropriating of the property. Naturally, a referendum was necessary, particularly since the Reichstag had rejected the bill when placed before it. The Luther cabinet was unalterably opposed to it. The form of the referendum as given in *Current History* for August is as follows:

The German people, through popular initiative and referendum, decree the following law:

1. The entire fortune of the Princes who have ruled in any one of the German States until the revolution of 1918, as well as the entire fortune of the princely houses, their families and family members, are confiscated without compensation in the interest of the general welfare.

2. The confiscated property is to be used to aid:

- (a) The unemployed.
- (b) The war invalids and the war widows and orphans.
- (c) Those dependent upon the public.
- (d) The needy victims of the inflation.
- (e) The agricultural laborers, tenants and peasants, through the creation of free land in the confiscated estates.

The castles, residences and other buildings are to be used for general welfare, cultural and educational purposes, especially for convalescent hospitals and homes for war invalids, war widows and orphans, and for the socially dependent, as well as for children's homes and educational institutions.

The national referendum was held on June 30, after a bitter campaign into which President Hindenburg was dragged in the closing days as an opponent of confiscation. About 15,686,000 votes were cast of which only 500,000 were against confiscation. Although more than 15,000,000 voted for the measure, it failed to carry because the constitution provides that a majority of all the qualified voters must vote to make a referendum legal. The supporters of the measure failed by 5,000,000 to carry out their purpose, although it showed pretty well how the people were divided on the matter. Attempts on the part of the government to settle the matter later were frustrated by the spectre of a cabinet upheaval or the dissolution of parliament. All the states in the meantime with the exception of Prussia and Gotha had made settlements with their former rulers. Prussia settled her problem in October when she gave the Kaiser 250,000 acres of land and 15,000,000 gold marks for the property he formerly owned in the kingdom. Most observers believed that this would be the end of a very vexatious and dangerous problem. Needless to say, the Communists voted solidly against this measure, although it called for payment of a far less sum than was asked for.

**FALL OF THE MARX CABINET.** The Marx cabinet which, as noted above, was appointed in March, fell on December 17. The crisis was caused by the Socialists, who made a bitter attack on Defense Minister Gessler and Minister of the Interior Kütz. Gessler was accused of being a mere tool of the old military régime and of attempting to build up a huge army and hide it behind the Reichswehr. The Socialist leader, Scheidemann, claimed that the various

"athletic clubs" and other societies fostered by Gessler were mere cloaks to cover up the military training of thousands of German citizens, who were only awaiting the proper time to restore the monarchy and launch Germany on another war of conquest. Kütz was attacked because of the strict censorship law which was enforced. The cabinet fell after an adverse vote of 249 to 171 had been taken on December 17 on a question of confidence in the government. No successor to Marx had been appointed up to the close of the year. At the request of President Hindenburg he continued in office until a new cabinet could be formed. See LEAGUE OF NATIONS.

**GIBRALTAR.** A possession of Great Britain on a small peninsula, comprising the Rock of Gibraltar, on the southwest coast of Spain, commanding the entrance to the Mediterranean Sea. Area, 17½ square miles; population, at the census of 1921, 20,638, of whom 2932 were military and 546 naval. On Jan. 1, 1925, the fixed population was estimated at 16,177, and there were also about 1268 aliens. The inhabitants are chiefly descendants of Spanish and Italian settlers, and in religion are Roman Catholics. Education is compulsory between the ages of five and 14. In 1924-25 there were 14 government aided elementary schools with 2617 pupils. There are also five secondary schools. The revenue in 1924 was £166,115 and the expenditure, £160,362. Trade is mainly transit. Vessels entered in 1924, 5143 of 7,242,548 tons; cleared, 3420 of 6,818,633 tons. There is cable connection with the continent, with eastern Mediterranean ports, and with England. Gibraltar is under a governor who is also commander-in-chief. He is assisted by an executive council established in 1922. Governor, in 1926, General Sir Charles C. Monro.

**GIFTS AND BENEFACTIONS.** See UNIVERSITIES AND COLLEGES.

**GILCHRIST, ALBERT WALLER.** Former governor of Florida, died in New York, N. Y., May 16. He was born at Greenwood, S. C., Jan. 15, 1858. He graduated from the Carolina Military Institute at Charlotte, N. C., and was for three years a cadet at the United States Military Academy. In Florida he was a civil engineer, real estate dealer, and orange grower, serving as a member of the Florida House of Representatives in 1893, '95, 1903, and '05, in which year he was speaker. In 1909 he became Governor of Florida, serving until 1913. At the outbreak of the Spanish-American War he resigned as Brigadier-General of the Florida Militia and enlisted as a private in Company C, Third United States Volunteer Infantry, serving in Santiago, Cuba. In the following year he was mustered out with the rank of captain. He was a delegate to the Democratic National Convention held at New York in 1924. During his administration as Governor he secured the passage of laws regulating the practice of osteopathy and dentistry, established sanatoriums for tuberculosis patients, provided for the sanitary inspection of food, and suppression of contagious diseases among livestock, and the punishment of corrupt practices in elections.

**GILCHRIST, JOHN DOW FISHER.** Professor of zoölogy in the University of Cape Town, died at Cape Town, South Africa, October 22. He was born at Anstruther, Scotland in 1866, and was educated at Madras College, St.

Andrews, Scotland, and at the Universities of St. Andrews, Edinburgh, Munich, and Zurich. Specializing in biology, in 1893 he became assistant in the zoological department in Edinburgh, and two years later became marine biologist to the government of the Cape of Good Hope. From 1896-1904 he carried on a marine biological and fisheries survey of the Cape coasts, discovering the trawling ground on the Agulhas Bank in 1898. In 1902 he also made a marine biological and fisheries survey for the Natal government. In 1918 he became professor of zoology in the University of Cape Town, previously having held a similar chair in the South African College from 1905-17. He was president of the South African Philosophical Society of Cape Town, 1903-04, and honorary member of the Société Centrale d'Aquiculture, joint honorary secretary of the South African Association for the Advancement of Science, 1902-05, chairman of the Fishery Board of Cape Province, 1908, marine biological and fisheries adviser for Cape Province, 1912; president of the Royal Society of South Africa, 1918, honorary director of the South Africa fishing and marine biological survey, 1920, and president of the South Africa Association for the Advancement of Science, 1922. He was the author of many reports dealing with marine biology and fisheries in South Africa, and edited many reports and works on science and zoology in this region. He was the author of many papers chiefly on fishes, mollusca, crustacea, hemichordata, temperatures and currents of South African seas, and other scientific topics, published in journals of learned societies.

**GILL, LAURA DRAKE.** American educator, died February 3. She was born at Chesterville, Me., Aug. 24, 1860, and after graduating at Smith College in 1881 and taking a master's degree in 1885, studied mathematics at the Universities of Leipzig, Geneva, and at the Sorbonne, Paris. From 1881-98 she was a teacher of mathematics in Miss Capen's school, Northampton, Mass., and during the Spanish-American War she was active in connection with the placing of nurses, and in educational and relief work for Cuban orphans following the war. In 1901 she became dean of Barnard College, Columbia University, serving until 1908. She was active in the organization of college alumnae, being president of the Association of Collegiate Alumnae, and chairman of education for the General Federation of Women's Clubs, 1907-11. Miss Drake originated the first Vocation Bureau for College Women, and The Women's Educational and Industrial Union at Boston, 1909-11. From 1911-14 she was engaged in organization work at the University of the South, Sewanee, Tenn., and in 1914-15 in Trinity College, Durham, N. C. During the World War she was active at Washington in the training section of the United States Employment Service of the Department of Labor. In 1921 she was a worker in the Pine Mountain Settlement, Kentucky, and in 1922 went to Berea College at Berea, Ky.

**GIRL SCOUTS.** A non-sectarian organization for girls started in Savannah, Georgia, in 1912, and incorporated under the laws of the District of Columbia in June, 1915. The purpose of the organization is to help girls to realize the ideals of womanhood, as a preparation for their responsibilities in the home and

service of the community. It aims to give girls, through natural wholesome pleasures, those habits of mind and body which will make them useful, responsible women. Its programme emphasizes methods of training to develop initiative, self-control, self-reliance, service to others, and other worth-while characteristics. Girl Scouting is based on the principles developed by Sir Robert Baden-Powell which first took shape in the Boy Scout programme in England. This programme has become the inheritance of boys and girls throughout 27 countries of the world, under different names and with slight modifications. The plan for Girl Scouting is not a copy of the Boy Scout programme; it is a development of the Girl Guide programme also founded by Sir Robert Baden-Powell, changed and adapted to meet the needs of American girls. When a girl becomes a scout she makes the following promise: "On my honor, I will try: to do my duty to God and my country; to help other people at all times; to obey the Scout Laws." The unit of organization is the troop, which is composed of one or more patrols. There are eight scouts in each patrol. The activities of the troop are developed through the Patrol System. The girls appoint a Patrol Leader from their own group who is responsible for the activities of the group. They advance by a merit system similar to that of the Boy Scouts (q.v.) The total active paid membership of the organization in 1926 was 134,934. It maintains 12 summer training schools for scout leaders, at which, in 1925, the enrollment was 2105. Since 1922 courses in Girl Scout leadership had been given through the Laura Spelman Rockefeller Memorial to nearly 6000 leaders in colleges and institutions of learning in 39 States. These leaders are followed up after leaving college by a system of letters encouraging them to take up Girl Scout work in their home neighborhood. The organization maintains summer camps for its members. The official organ is *The American Girl*. The income for the year 1925 totaled \$329,536.43. The officers for 1926 were: Mrs. Calvin Coolidge, honorary president; Miss Sarah Louise Arnold, president; Mrs. Herbert Hoover, first vice-president and chairman of the Board of Directors; Mrs. Arthur O. Choate, Mrs. Julius Rosenwald, Mrs. William H. Hoffman, Mrs. Vance C. McCormick, Mrs. Charles C. Harrison, Jr., vice-presidents; Mrs. Nicholas F. Brady, treasurer; Mrs. Julius H. Barnes, corresponding secretary; Mr. Douglas Campbell, counsel. The national headquarters are at 670 Lexington Avenue, New York City.

**GLASS.** See CHEMISTRY, INDUSTRIAL.

**GLENN, EDWIN FORBES.** Brigadier-General, U. S. A., retired, died at Mentor, Ohio, Aug. 5. He was born near Greensboro, N. C., Jan. 10, 1857, and after studying at various private schools in North Carolina and New York entered the United States Military Academy from which he graduated in 1877, being commissioned second lieutenant in the Twenty-fifth United States Infantry. He was promoted through the various grades of the army to brigadier general, May 15, 1917, and on August 5 of that year became major general in the National Army. He instituted military training at the University of Minnesota where he was professor of mathematics in 1888, and while stationed there studied law, receiving the degree of LL.B in 1890, being admitted to the Minnesota bar.

In addition to service in the line he was judge advocate in the department of Dakota, and in the Department of the Columbia, and commanded an exploring and survey expedition to Alaska, 1898-99. General Glenn served in the Philippines and at various posts in the United States, studying at the War College, Washington, 1913-14, and serving as chief of staff of the Department of the East, 1914-16. He commanded the Eighteenth Infantry and the First Separate Brigade at Deming, N. M., 1916-17, and after the outbreak of the World War organized Camp Sherman, Ohio, and the 83d Division. From January to April, 1918, he was sent overseas for observation at various fronts, and in June of that year commanded the 83d Division of the A. E. F. He also organized and commanded the Second Replacement Depot and Training Centre at Le Mans, Sarthe, France, and the American Embarkation Centre there, and in February, 1919, was in command of demobilization at Camp Sherman, Ohio. He retired from the army in 1919. He was made a Commander of the Legion of Honor of the French Government for his services in the War. He was the author of *Glenn's International Law* (1895); and *Rules of Land Warfare*, published in 1914 under the auspices of the General Staff. He was active in the United States Infantry Association, serving as its president 1913-20.

**GLENNAN, ARTHUR HENRY.** Assistant Surgeon General United States Public Health Service, died at Washington D. C., September 22. He was born at Rochester, N. Y., July 28, 1853, the son of Patrick Glennan, a surgeon in the United States Army. After graduating with the degree of B.S. at St. John's College, District of Columbia, in 1872, he studied medicine at the University Medical College, N. Y., receiving the degree of M.D. in 1882. In the following year he was appointed assistant surgeon in the United States Marine Hospital Service, and advanced through successive ranks in that service, and in the public health service until June 10, 1903 when he was made assistant surgeon general. From 1883-97 he commanded various marine hospitals and quarantine stations, and during the yellow fever epidemic of 1897-98 he served in the South. He was sanitary inspector for the west coast of Florida during General Shafter's expedition to Cuba, and organized the quarantine service of Porto Rico in 1899, being appointed a member of the Superior Board of Health. He was Chief Quarantine Officer of Cuba during the yellow fever epidemic in Havana serving on the staff of Major General Wood, 1900-02. In 1902-03 he was detailed upon a sanitary mission to California which was carried on in cooperation with both government and state health officials.

**GOITRE.** In regard to the wholesale use of iodized salt as a preventive of the disease in goitrous regions Dr. Hartsock of Cleveland (*Journal of the American Medical Association*, May 1) is but one of many who warn the public against going to extremes in this direction. It is not denied that this remedy prevents the simple form of goitre, but it may also cause the development of the toxic or exophthalmic form of the disease. There is probably no danger if the iodized salt is limited to young children up to the age of puberty, for these are not much disposed to toxic goitre; but after that period it

should not be given save with the consent of a physician who can make an expert examination. If the adolescent presents what is known as fetal adenoma he should use the salt with great caution if at all, and be prepared to suspend its use if symptoms of hyperthyroidism appear. Adults had better not make use of the salt at all. Dr. Hartsock gives advice in regard to the use of the salt in the presence of certain conditions which may either permit or forbid it, which bring home the fact that the subject is too technical for the layman to decide. In the same number of the *Journal* Dr. Jarvis and two others of Seattle laud the use of salmon, whether fresh or canned, as a preventive of goitre. While some other substances contain more iodine none is so economically suited for a steady diet. See **FOOD AND NUTRITION**.

**GOLD.** In the United States the Bureau of the Mint, with the cooperation of the Bureau of Mines, issued the following statement of the preliminary estimate of refinery production of gold during the calendar year 1926:

States	Gold	
	Ounces	Value
Alaska . . . . .	312,856	\$6,467,800
Arizona . . . . .	230,227	4,759,200
California . . . . .	559,911	11,574,400
Colorado . . . . .	331,819	6,859,300
Georgia . . . . .	101	2,100
Idaho . . . . .	12,181	251,800
Montana . . . . .	60,411	1,248,800
Nevada . . . . .	169,598	3,505,900
New Mexico . . . . .	25,513	527,400
North Carolina . . . . .	97	2,000
Oregon . . . . .	12,631	261,100
Pennsylvania . . . . .	19	400
South Dakota . . . . .	286,960	5,932,000
South Carolina . . . . .	14	300
Tennessee . . . . .	421	8,700
Texas . . . . .	111	2,300
Utah . . . . .	178,078	3,681,200
Virginia . . . . .	10	200
Washington . . . . .	8,872	183,400
Philippine Islands . . . . .	98,259	2,031,200
Total . . . . .	2,288,089	47,299,000

The 1926 production of gold was less than that of 1925 by \$2,561,200; the year of greatest gold production was 1915, when \$101,035,700 was produced. The gold production of 1926 was the lowest of any year since 1895.

#### WORLD PRODUCTION OF GOLD, 1925

From the Report of the Director of the Mint, 1926			
Country	Kilos, fine	Ounces, fine	Value
North America:			
United States . . . . .	72,159	2,319,920	\$47,956,991
Canada . . . . .	53,989	1,735,735	35,880,819
Mexico . . . . .	24,541	788,993	16,309,929
Total . . . . .	150,689	4,844,648	100,147,739
Central America and West Indies " . . . . .			
	3,009	96,750	2,000,000
South America:			
Argentina " . . . . .	83	2,661	55,000
Bolivia . . . . .	12	386	7,979
Brazil . . . . .	3,375	108,506	2,243,018
Chile . . . . .	2,107	67,725	1,400,000
Colombia . . . . .	3,009	96,750	2,000,000
Ecuador . . . . .	1,128	36,281	750,000
Guiana—			
British . . . . .	283	9,107	188,258
Dutch . . . . .	308	9,902	204,692
French . . . . .	1,251	40,220	831,421
Peru . . . . .	3,662	117,723	2,433,756
Uruguay . . . . .			
Venezuela . . . . .	950	30,542	631,359
Total . . . . .	16,168	519,818	10,745,483

## WORLD PRODUCTION OF GOLD, 1925—Continued

Country	Kilos, fine	Ounces, fine	Value
<b>Europe:</b>			
Austria .....	58	1,865	38,553
Czechoslovakia .....	236	7,587	156,837
France .....	1,150	36,972	764,279
Germany .....	200	6,430	132,920
Great Britain .....	.....	.....	.....
Greece .....	.....	.....	.....
Italy .....	60	1,929	39,876
Norway .....	.....	.....	.....
Poland .....	.....	.....	.....
Rumania .....	1,552	49,897	1,031,462
Russia .....	33,000	1,060,950	21,931,778
Spain .....	30	967	20,000
Turkey .....	29	932	19,266
Yugoslavia .....	236	7,587	156,837
<b>Total .....</b>	<b>36,551</b>	<b>1,175,116</b>	<b>24,291,808</b>
<b>Asia:</b>			
British India ....	12,249	393,807	8,140,711
China .....	3,337	107,800	2,218,087
Chosen (Korea) ..	4,172	184,128	2,772,671
<b>East Indies—</b>			
British .....	752	24,187	500,000
Dutch .....	4,128	132,715	2,743,462
<b>Federated Malay States</b>			
.....	440	14,146	292,424
Indo-China .....	11	349	7,219
Japan .....	8,398	270,000	5,581,394
Philippine Islands	2,928	94,135	1,945,943
Sarawak .....	27	858	17,736
Taiwan .....	281	9,035	186,762
<b>Total .....</b>	<b>36,723</b>	<b>1,180,660</b>	<b>24,406,409</b>
<b>Oceania:</b>			
<b>Australia—</b>			
New South Wales	604	19,422	401,488
Northern Territory .....	14	445	9,199
Queensland .....	1,443	46,406	959,297
South Australia ..	44	1,406	29,064
Victoria .....	1,471	47,296	977,695
West Australia ..	13,725	441,252	9,121,486
Tasmania .....	110	3,524	72,847
Papua .....	67	2,166	44,775
New Zealand .....	3,459	111,202	2,298,759
<b>Total .....</b>	<b>20,937</b>	<b>673,119</b>	<b>13,914,610</b>
<b>Africa:</b>			
Abyssinia .....	622	20,000	413,436
Belgian Congo ....	3,819	122,781	2,538,108
<b>British West Africa (Gold Coast, Ashanti, Nigeria) .....</b>			
.....	6,211	199,697	4,128,102
Egypt .....	11	354	7,318
<b>French West Africa (Guinea, Ivory Coast, Sudan, Senegal) .....</b>			
.....	109	3,504	72,434
Madagascar .....	419	13,471	278,470
<b>Portuguese East Africa .....</b>			
.....	382	12,292	254,098
<b>Rhodesia—</b>			
Northern .....	39	1,250	25,840
Southern .....	18,087	581,504	12,020,752
<b>Sudan, Anglo-Egyptian .....</b>			
.....	263	8,466	175,000
Tanganyika .....	277	8,898	183,938
<b>Transvaal, Cape Colony, and Natal .....</b>			
.....	298,525	9,597,592	198,399,790
<b>Total .....</b>	<b>328,764</b>	<b>10,569,809</b>	<b>218,497,286</b>
<b>Total for world</b>	<b>592,841</b>	<b>19,059,915</b>	<b>394,003,335</b>

\* Estimate based on United States imports of ore and bullion.

† Last year's figures.

‡ Estimate based on other years' production.

§ Amount exported.

|| Estimate based on first eight months' output.

**WORLD'S PRODUCTION OF GOLD.** In 1926 the world's gold production was estimated at \$388,500,000, or, as will appear from the accompanying table, a small decrease from the estimates of 1925. The Transvaal gold field increased its production in 1926 owing to more

favorable labor conditions, the output being estimated at 9,900,000 ounces, valued at \$205,891,000, or an increase of 362,000 ounces, valued at \$7,483,000, making a new record. The decline of production in the United States amounted to \$2,561,200, as already considered, while in Mexico the production of gold declined from \$16,310,000 to \$12,821,000 in 1926, or a decline of \$3,489,000. The production of gold in Russia in 1926 was estimated at \$17,500,000, about the same as in 1925, with a possibility that more complete statistics would increase the total by \$500,000. In the Dominion of Canada the production of the Province of Ontario was estimated to be in excess of \$31,000,000, or an increase over 1925 of more than \$1,500,000. While declines were indicated from the Yukon and western Canada, nevertheless the production of the Dominion in 1926, approximately \$36,250,000, was an increase of approximately \$500,000 over 1925.

The figure of world's highest production was \$468,799,812, in 1915, of which the United States produced 21.5 per cent. The United States had since that time constantly decreased its percentage, until in 1926 it stood at 12.2 per cent. On the other hand Canada had increased its production and there was every indication that within a few years it would be greater than that of the United States. The purchasing power of the gold dollar in terms of the 1913 dollar was 66.1 cents, as compared with 63 cents in 1925, both figures being based on eleven months of the respective years.

**U. S. IMPORTS AND EXPORTS.** The movement of gold during 1926 resulted in a gain to the United States in the metal of \$97,764,408, the imports being \$213,472,223, against exports of \$115,707,815. In 1925 the country lost gold to a total of \$134,366,618, exports amounting to \$262,639,790 and imports to \$128,273,172. See FINANCIAL REVIEW.

**GOLD, TRANSMUTATION OF.** See CHEMISTRY, INDUSTRIAL, under *Gold*.

**GOLD COAST.** A colony on the Gulf of Guinea in Africa belonging to Great Britain; bounded by the French Ivory Coast on the west, the French Sudan on the north, Togoland on the east, and extending on the south for 334 miles along the Gulf of Guinea; comprising in addition to the colony, proper, Ashanti and the Northern Territories. The area of the three divisions is estimated at 80,000 square miles; population at the census of 1921, 2,078,043, of whom 2165 were Europeans. The capital and chief town is Accra, with a population of 38,000. Other large towns are Cape Coast (15,000), Sekondi (10,000), and Keta (10,000). In 1924-25 there were 21 government schools and 215 assisted schools, which are under the control of various missions. The average attendance during this year at the primary and secondary schools was 30,456. There were besides a large number of unassisted primary schools supported by the religious denominations.

The staple products and chief exports are: Cacao, palm oil, palm nuts, cola nuts, and India rubber; there has also been an increasing production of spice, coconuts, coffee, cotton, and a steady development of the trade in valuable native woods. The chief mineral is manganese, which constitutes an important export. The exports in 1924 were valued at £9,914,937 and the imports at £8,315,234. According to the United States Bureau of Foreign and Domestic Com-

merce, the foreign trade of the Gold Coast Colony for the first six months of 1925 showed a very appreciable increase over the same period in 1924. Total imports for the first half of 1925 (exclusive of specie) were valued at £3,891,558 as against £3,100,258 for the 1924 period, thus showing an increase of nearly 23 per cent. Imports from the United States which held second place following Great Britain, mounted from £470,834 to £532,487, or about 8 per cent. The total value of exports from the colony to all countries, exclusive of coin, reached £5,840,765 for the first half of 1925 as compared with £5,342,381 for the 1924 period, an increase of 9 per cent. Exports to the United States which again took second place, amounted to £1,346,726, or approximately 25 per cent over the six months' total of £1,073,277 in 1924, and consisted mainly of cacao. The revenue for 1924 was £3,971,187 and the expenditure, £4,632,633. The public debt on March 31, 1925, was £7,259,118. The shipping entered and cleared in the 1924 trade was 3,671,964 tons, of which 2,189,097 were British.

Ashanti, annexed by Great Britain in 1901, is under the governor of the Gold Coast, although it has its own local laws and ordinances. Population, 1921, 407,000, of whom 400 were Europeans. Kumasi, with 20,000 inhabitants, is the chief town. In 1924-25 there were 775 pupils in the government schools and 3049 pupils in the mission schools. The forests in the western part are rich in mahogany, cedar, and other valuable woods, and in trees that yield rubber, oil and gum copal, and fruits. Local receipts in 1924-25 were £60,018; local expenditures, £379,288.

The Northern Territories, constituted a British protectorate in 1910, are also under the governor of the Gold Coast but locally administered by a chief commissioner, with his headquarters at Tamale. Area, 31,000 square miles; population (1921), 527,914, of whom only 49 were Europeans. Navaro is the chief town with a population of 15,000. Local revenue in 1924-25, £8229; local expenditure, £84,795. Governor of the Gold Coast at the beginning of 1926, Brig.-Gen. Sir F. G. Guggisberg; Chief Commissioner of Ashanti, Sir J. Maxwell; Chief Commissioner of the Northern Territories, Major A. H. C. Walker-Leigh.

**GOLDSMITH, PETER H.** American editor and Americanist, died at New York City, April 8. He was born in Greenville, S. C., Nov. 23, 1865, and was educated at the Greenville Military Institute, Furman University, and the Southern Baptist Theological Seminary. Ordained in the Baptist ministry, he held various pastorates until 1891 when he went to Guadalajara, Mexico, as a Baptist missionary, remaining until 1894, when he accepted a call to the Temple Baptist Church of Philadelphia. In 1902 he was ordained in the Unitarian ministry becoming pastor of the First Congregational Society of Salem, Mass., and in 1910, accepted a call to the First Unitarian Congregational Church of Yonkers, N. Y. During his residence in Mexico his interest was aroused in the Spanish language and the Spanish-American people, and after returning to the north he continued his studies in the Spanish language, compiling a dictionary and preparing a method for teaching English to Spanish-speaking peoples. In 1906 on a trip to Mexico he made extensive collections including specimens of insect life which were given to

Harvard University and the Peabody Museum of Salem, Mass., and in 1912 he made a trip to Spain, visiting libraries and consulting various archives. In 1914 he became director of the Pan American Division of the American Association for International Conciliation, and in 1924, when this organization became incorporated with the Division of Intercourse and Education of the Carnegie Endowment for International Peace, Dr. Goldsmith became the director of the Inter-American Section of the Division of Intercourse and Education. He was also director and editor of *Inter-America*, a periodical "designed to establish community of ideas among the peoples of the New World." He was a member of the Hispanic Society of America, and of the Pan American Society of the United States, besides being a corresponding member of the Museo Social Argentino, of the Instituto Paraguayo and of the Sociedad Chilena de Historia y Geografía.

**GOLF.** Robert T. Jones, Jr., of Atlanta, Georgia, was the central figure of the 1926 golfing season. This amazing youngster first captured the British open championship from a field of notable players and less than two weeks later won the United States open tourney, a feat never before performed in the history of this sport. Jones topped off these achievements by a magnificent defense of his United States amateur crown, losing to George von Elm in the final round by the narrow margin of 2 and 1.

The veteran Walter Hagen also distinguished himself through his third successive triumph in the U. S. Professional Golfers' Association championship and his victories in both the Eastern and Western open tourneys. Jesse Sweetser scored the most dramatic success of the year when he carried off the British amateur championship.

United States players added still another international trophy to their collection by winning the Walker Amateur Cup series from a British team, the score being 6 1-2 to 5 1-2. A new champion resulted from the United States national women's amateur tournament, Mrs. G. Henry Stetson wresting the laurels from Miss Glenna Collett. The United States Intercollegiate Association championship went to Yale University for the third successive year with a score of 1295. Harvard finished second with 1297 and Princeton third with 1298. The individual honors were captured for the second consecutive year by G. F. Lamprecht of Tulane University.

The winners in the more important tournaments of 1926 were: U. S. National Open, R. T. Jones, Jr.; U. S. National Amateur, George von Elm; U. S. National Women's, Mrs. G. Henry Stetson; U. S. Professional, Walter Hagen; British Open, R. T. Jones, Jr.; British Amateur, Jesse Sweetser; British Women's, Miss Cecil Leitch; French Open, Aubrey Boomer; French Amateur, J. G. Anderson; French Women's, Mme. S. T. de la Chaume; Canadian Amateur, R. Somerville.

**GONZALES, AMBROSE ELLIOTT.** Author and editor, founder and editor of the *Columbia*, S. C., *The State*, died at Columbia, S. C., July 11. He was born at Adams Run, S. C., May 29, 1857, and was educated at private schools, becoming a telegraph operator in 1874, working in this field until 1878, when he took up farming. In 1881 he became a commercial telegraph operator in New

York City, working in that City and New Orleans until 1885, when he became a traveling agent and correspondent for the Charleston, S. C. *News and Courier*. In 1890 he was appointed secretary of the South Carolina Department of Agriculture, and February 18, 1891, with his brother, N. G. Gonzales, founded at Columbia, S. C. a daily paper known as *The State*. From 1893 he was the president, treasurer and manager of that paper which soon acquired considerable influence. During the Spanish-American War he served in Santiago, Cuba as captain of the United States Volunteers. In addition to his newspaper work Gonzales wrote many stories in the dialect of the Negroes of the South Carolina coastal islands employing what was known as the Gullah Dialect. This attracted considerable attention in literary circles. His literary work included: *The Black Border: Gullah Stories of the Carolina Coast* (1922); *With Asop Along the Black Border* (1924); *The Captain: Stories of the Black Border* (1924); and *Laguerre—A Gascon of the Black Border* (1924).

#### GORDON BENNETT CUP COMPETITION.

See AERONAUTICS.

**GOUCHER COLLEGE.** A non-sectarian college for women at Baltimore, Md.; founded in 1885. For the year 1926-27 there were 1050 students enrolled, distributed as follows: 329 first year students, 273 second year, 244 third year, 200 fourth year, and 4 unclassified. The faculty had 105 members, 5 of whom were added during the year. The endowment funds of the college amounted to \$2,351,673.99. The library contained 40,500 volumes. President, William Westley Guth, Ph.D., LL.D.

**GRAHAM'S LAND.** See FALKLAND ISLANDS.

**GRAIN.** See AGRICULTURE; RYE; WHEAT; ETC.

**GRANNISS, MRS. ELIZABETH BARTLETT.** American editor and humanitarian, died at New York City March 22. She was born at Hartford, Conn., March 27, 1840, and was educated at public and private schools, and at Lake Erie College, Painesville, O. She was a teacher in the public schools, and later became head of a private school. She was editor and proprietor of *The Church Union* (Evangelical) for 23 years, and was also editor of the *Children's Friend* and *Kindergarten Magazine*. In 1887 she founded and became president of the National Christian League for Promotion of Purity, and was active in many measures and agencies involving the betterment of moral and social conditions. She was a delegate and speaker many times before the National and International Council of Women, and in her later life was active in securing legislation for sterilization of habitual criminals and mental defectives, against infidelity in wedlock, and other similar moral undertakings.

**GRAPES.** See HORTICULTURE.

**GRAPHITE.** The U. S. Bureau of Mines reported for the year 1925 a production of 3536 short tons of amorphous graphite valued at \$39,640 and 2,257,250 pounds of crystalline graphite valued at \$56,721. In addition to this natural graphite there was manufactured at Niagara Falls, N. Y., by the Acheson Graphite Company artificial graphite to the amount of 12,135,655 pounds. In 1925 there were imported into the United States 17,768 short tons of graphite valued at \$826,410, and also 3100 crucibles valued at \$548. The exports of graphite from the United States in 1925 were 945 short tons unmanufactured graphite valued at \$142,-

122 and manufactured graphite valued at \$337,481.

**GRASSELLI MEDAL.** See CHEMISTRY, INDUSTRIAL, under *Medals*.

**GREAT BRITAIN.** UNITED KINGDOM OF GREAT BRITAIN AND IRELAND. A Constitutional monarchy comprising the British islands. Capital, London. Although the term literally applies only to the island including England, Scotland, and Wales, it is often used as above to include Ireland, the Isle of Man, and the Channel Islands. In view of the change in the status of Ireland (q.v.) usage in this respect will probably be altered. The term British Empire applies to the United Kingdom and all its possessions and dependencies, that is to say the dominions, colonies, protectorates, and other territories subject to the ultimate control of the British Parliament.

**AREA AND POPULATION.** The area of England, Scotland, Wales, the Isle of Man, and of the Channel Islands is 89,041 square miles; the area of Ireland, 32,586 square miles (see IRELAND, NORTHERN, and IRISH FREE STATE). The population of England, Scotland, and Wales in 1925 was 43,783,032. For details of the census of 1921 see 1923 and preceding YEAR BOOKS.

The accompanying table from the *Statesman's Year Book* for 1926 gives a comparison of the estimated population (exclusive of army, navy, and merchant seamen abroad):

Year (30 June)	England and Wales	Scotland	Total of Great Britain
1914	36,960,684	4,747,167	41,707,851
1921	37,865,242 <sup>a</sup>	4,882,288 <sup>a</sup>	42,767,530 <sup>a</sup>
1922	38,158,000	4,904,247	43,062,247
1923	38,403,000	4,901,100	43,304,100
1924	38,746,000	4,881,637	43,627,637
1925 <sup>b</sup>	38,890,000	4,893,032	43,783,032

<sup>a</sup> Census figures for June 19.

<sup>b</sup> Provisional figures.

The provisional figures for the movement of population in England and Wales for 1925 were: Births, 710,979; deaths, 473,006; marriages, 295,166. Similar figures for Scotland were: Births, 104,137; deaths, 65,505; marriages, 32,468. The number of persons taking advantage of "assisted emigration" (see preceding YEAR BOOK), under the terms of the Empire Settlement Act, during the first eight months of 1926 reached a total of 26,213, as compared with 129,127 during the years 1922 to 1925, inclusive, according to the Ministry of Labor *Gazette*. Assisted emigrants departed for various regions during the 1926 period, January 1 to August 31, inclusive, as follows: Australia, 22,424; Canada, 15,927; New Zealand, 7201; South Africa, 114; and other sections of the British Empire, 547.

Greater London, the largest city in the world, had a population in 1921 of 7,480,201 on the 443,449 acres covered by the Metropolitan and City Police Districts. Registration London, which coincides with the administrative county and nearly coincides with the London Parliamentary borough, had a population of 4,484,523, with an area of 74,850 acres. The estimated population of Greater London in 1924 was 7,665,883. Birmingham, the second city of England, had a population in 1921 of 919,444 (estimated, June, 1924, 946,980). Liverpool continued to stand third, with 802,940 in 1921 (estimated, June, 1924, 851,800); and Manchester fourth with 730,307 in 1921 (estimated, June, 1924, 755,000).

Other large cities with their populations are Sheffield, 490,639 in 1921 (estimated in 1924, 525,000); Leeds, 458,232 in 1921 (estimated in 1924, 471,600); Bristol, 376,975 in 1921 (estimated in 1924, 386,200). Glasgow is the largest city in Scotland with a population of 1,034,174 in 1921 (estimated in June, 1925, 1,057,100); Edinburgh is next with 420,264 in 1921 (estimated in June, 1925, 427,300). The chief city of Wales is Cardiff, which had an actual population in 1921 of 200,184 and an estimated population in 1924 of 226,200. The census of 1921 did not include Ireland. For the populations of Australia, Canada, India, and other British possessions, see those titles.

**EDUCATION.** Primary education is free and compulsory between the ages of five and 14. In 1924 the number of schools in England and Wales (public elementary, special, and certified) was 21,304, with accommodations for approximately 7,090,000 pupils. The average attendance at these schools was about 5,032,000 and the number of teachers, 161,049. There are also numerous schools for the blind and deaf and for mentally and physically defective children; poor schools, nursery schools; etc. There were 111 training colleges for teachers in England and Wales with 16,869 students, of whom 15,310 were being trained to teach in elementary schools. On Oct. 1, 1925, there were 1297 secondary schools on the grant list with 367,290 pupils and 19,069 full-time teachers. In Scotland in 1924 there were 2895 primary schools with an accommodation of 870,000 scholars and an average attendance of 587,000. There were 17,744 certificated teachers and 64 assistant teachers. In 1924-25 there were four training centres and three training colleges for teachers with 2496 senior students. In the same year there were 249 secondary schools, with a total accommodation of 179,814 scholars, and an average register of 156,272.

The accompanying table from the *Statesman's Year Book* for 1926, gives an estimate of the number of students and members of the teaching staffs in the universities in Great Britain in 1925-26:

<i>Universities</i>	<i>Number of professors, etc.</i>	<i>Number of students</i>
<b>England:</b>		
Oxford .....	144 <sup>f</sup>	5,811 <sup>b</sup>
Cambridge .....	170	4,997 <sup>b</sup>
Durham (1831) .....	262	1,228 <sup>d</sup>
London (1836) .....	1,095 <sup>a</sup>	9,091 <sup>c</sup>
Manchester (1880) .....	245	2,244
Birmingham (1900) .....	243	1,580
Liverpool (1903) .....	391	1,950
Leeds (1904) .....	275	1,540
Sheffield (1908) .....	182	2,502 <sup>e</sup>
Bristol (1909) .....	205	915
Reading (1926) .....	117	1,653
<b>Total for England ....</b>	<b>3,388</b>	<b>33,511</b>
<b>Scotland:</b>		
St. Andrews (1411) .....	110	643
Glasgow (1450) .....	253	4,428
Aberdeen (1494) .....	129	1,343
Edinburgh (1582) .....	290	3,724
<b>Total for Scotland ....</b>	<b>772</b>	<b>10,138</b>
<b>Wales (1903) .....</b>	<b>347</b>	<b>2,643</b>
<b>Totals of above .....</b>	<b>4,457</b>	<b>46,292</b>

<sup>a</sup> Comprising 243 University Professors and Readers, and 852 "Recognized Teachers."

<sup>b</sup> Undergraduates.

<sup>c</sup> Internal students. In addition there are external students, i.e., matriculated students who have not taken a degree nor been registered as internal students. The

number of these is not ascertainable but is probably greater than 9,000.

<sup>d</sup> Year 1921-22.

<sup>e</sup> Includes evening students.

<sup>f</sup> Excluding College Tutors.

Colleges exclusively for female students are: Bedford (62 teachers, etc., 610 students); Royal Holloway (33 teachers, 201 students); and Westfield Colleges (15 teachers, 139 students), in London; Newnham (15 teachers, 281 students) and Girton (13 teachers, 286 students), in Cambridge; Lady Margaret Hall (12 teachers and 132 students), Somerville College (14 teachers, 143 students), St. Hugh's College (9 tutors, 152 students), St. Hilda's College (9 teachers and 112 students), in Oxford.

**AGRICULTURE.** The accompanying table from the above mentioned source gives the general distribution of the surface of the island of Great Britain, the Isle of Man, and the Channel Islands:

<i>Divisions</i>	<i>Woods and plantations</i>	<i>Rough grazing land</i>	<i>Permanent pasture</i>	<i>Arable land</i>
<i>1925</i>	<i>1913</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
England <sup>a</sup>	1,697,000	3,419,000	12,965,000	10,000,000
Wales <sup>a</sup>	187,000	1,606,000	2,108,000	602,000
Scotland	852,000 <sup>b</sup>	9,673,000 <sup>c</sup>	1,476,000	3,229,000
Isle of Man	1,400	39,000	20,000	60,000
Channel Islands (1923)	200	2,000	10,000	21,000
<sup>a</sup> England excludes, and Wales includes Monmouth.				
<sup>b</sup> Area in 1914.				
<sup>c</sup> Area in 1924.				

The accompanying tables show the distribution of the cultivated area and the livestock census of 1924 and 1925:

	<i>England and Wales</i>		<i>Scotland</i>	
<i>Cultivated area</i>	<i>1924</i>	<i>1925</i>	<i>1924</i>	<i>1925</i>
	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
Corn crops <sup>a</sup>	5,502,852	5,182,075	1,168,771	1,138,730
Green crops <sup>b</sup>	2,218,646	2,131,361	575,309	571,860
Hops .....	25,897	24,256	.....	.....
Small fruit <sup>c</sup>	73,515	68,352	6,969	7,189
Orchards <sup>c</sup> ..	239,477	238,081	1,344	1,163
Bare fallow ..	355,599	463,204	6,992	9,063
Clover and rotation grasses ..	2,547,687	2,573,724	1,515,075	1,502,517
Permanent pasture ..	14,948,124	15,073,433	1,442,174	1,475,838
<b>Total ..</b>	<b>25,876,797</b>	<b>25,756,486</b>	<b>4,715,299</b>	<b>4,705,197</b>

<sup>a</sup> Corn crops are wheat, barley or bere, oats, mixed corn, rye, beans, peas.

<sup>b</sup> Green crops are mainly potatoes, turnips, and swedes, mangold, cabbage, kohlrabi, rape, vetches or tares.

<sup>c</sup> In Scotland all orchard land is also included against the crop, grass or fallow beneath the trees. In England and Wales orchard land is only duplicated where small fruit is grown beneath the trees. The figures for small fruit in all cases, therefore, include small fruit in orchards.

	<i>England and Wales</i>		<i>Scotland</i>	
<i>Livestock</i>	<i>June, 1924</i>	<i>June, 1925</i>	<i>1924</i>	<i>1925</i>
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Horses ..	1,232,198	1,164,240	193,696	185,433
Cattle ...	5,894,329	6,163,330	1,164,397	1,204,791
Sheep ...	14,843,195	15,974,794	6,880,152	7,118,820
Pigs ....	3,228,330	2,644,356	198,836	154,220

**MINERAL PRODUCTION.** The total value of all minerals produced in 1924 was £273,801,914 at the mines and quarries, of which the value of coal alone was £251,664,873. According to the U. S. Bureau of Foreign and Domestic Commerce, the output of coal in Great Britain

in 1925 amounted to 244,420,000 long tons compared with 267,120,000 in 1924 and an average of 269,590,000 for the period 1909 to 1913, inclusive. Exports in 1925 totaled 68,970,000 tons declining from 81,750,000 in 1924 and an average of 88,370,000 in 1909-13. An analysis of the trade in countries which were Great Britain's principal coal markets before the War reveals reductions in most cases. The accompanying table, compiled from the report of the Royal Commission on the Coal Industry, 1925, shows the changes in both the 1924 and 1925 export trade, as compared with the pre-war average:

CHANGES IN BRITISH COAL EXPORT TRADE  
FROM PRE-WAR AVERAGE

Country	1909-1913 (annual average)		Difference in—	
	Long tons	Long tons	1924	1925
			Long tons	Long tons
France . . . . .	10,836,700	+ 3,890,000	-	411,100
Scandinavia and Denmark . . . . .	9,917,900	+ 1,672,800	-	1,111,600
Italy . . . . .	9,483,400	- 2,409,000	+	2,244,600
Germany . . . . .	9,039,400	- 1,864,500	+	4,615,800
South America * Russia, etc. . . . .	6,751,000	- 2,127,800	-	2,217,100
Egypt . . . . .	4,110,500	- 2,767,000	-	3,184,200
Spain . . . . .	2,952,100	- 1,088,700	-	952,400
Netherlands . . . . .	2,527,400	- 817,300	-	550,200
Belgium . . . . .	2,186,100	+ 608,800	-	638,100
	1,707,000	+ 1,719,400	+	917,500
Net loss on above markets . . . . .		- 3,183,300	-	15,207,600

\* Including Argentina, Uruguay, Brazil, and Chile.

The Royal British Coal Commission, appointed in 1925, to investigate the British coal industry, and to recommend means of improving the situation which culminated in the granting of a subsidy in August, 1925, made public its conclusions on Mar. 10, 1926. The main purpose of the report prepared by the commission was threefold: First, the application of more scientific coal mining and distribution methods; second, larger mining units; and third, fuller partnership between owners and employees. Among its main features were the following:

Abandonment of the subsidy on May 1, without continuation in any form.

Downward revision of the 1924 minimum percentage addition to basic wage.

The filling of the gap in the gross profits margin, now occupied by the subsidy, by a temporary wage reduction for particular classes of employees other than the lowest paid.

Acquisition of royalties by the State.

Continuation of present working hours.

Full rejection of the nationalization program proposed by the miners, although approval is given to many measures favoring cooperation between employers and employees through profit sharing and joint committees.

The State participation suggested involved:

Assumption of royalties (estimated value of properties on which royalties are paid, £100,000,000).

A coal commission under the Department of Mines, to administer the property.

Appointment of a national fuel and power commission to ally coal with other industries and study heat, light, and power needs.

Financial support to aid research and inquiry, especially regarding low temperature carbonization.

Amalgamation to be compelled by law, if necessary, through State control of leases.

Such legislation as needed for profit sharing.

Payment by the Government of the amount necessary in transferring labor from closed mines.

A standing joint committee of mines and transport to assist pooling and control of railway wagons.

An official system for sampling and analysis.

The mine owners' contributions to the reorganization, as suggested by the report, were:

Closing of unprofitable mines.

Amalgamation of smaller units.

Better ascertainment of costs and proceeds.

A fuller statement of prices at which coal is sold to allied industries.

Cooperative selling as a part correction of the present costly selling organization.

Readiness to cooperate with workers.

The employees' contributions included:

Acceptance of a revision of the 1924 minimum percentage addition to basic wages, involving lower wages for certain highly paid employees.

Abandonment of the nationalization program in return for the above material concessions.

See articles on COAL, STRIKES AND LOCKOUTS, IRON AND STEEL.

FISHERIES. The accompanying table shows the quantity and value of the British catch of fish in 1924 and 1925:

	1924 Tons	1925 Tons
England and Wales . . . . .	684,400	676,868
Scotland . . . . .	349,819	286,269
Great Britain (excluding shell-fish) . . . . .	1,034,219	963,137
	£	£
England and Wales . . . . .	15,150,221	14,228,282
Scotland . . . . .	4,647,858	4,457,446
Great Britain (excluding shell-fish) . . . . .	19,798,079	18,685,728
Value of shell-fish . . . . .	551,572	584,448

COMMERCE. The accompanying tables from the *Statesman's Year Book* for 1926 give the essential items of the trade of Great Britain for recent years:

VALUE OF THE IMPORTS AND EXPORTS OF MERCHANDISE (EXCLUDING BULLION AND SPECIE  
AND FOREIGN MERCHANDISE TRANSSHIPPED UNDER BOND) OF THE UNITED KINGDOM  
FOR FIVE YEARS

Year	Total imports £	Exports of British produce £	Exports of foreign and Colonial produce £	Total exports £
1913 . . . . .	768,734,739	525,253,595	109,566,781	634,820,326
1922 . . . . .	1,003,098,889	719,507,410	103,694,670	823,202,080
1923 . . . . .	1,096,226,214	767,257,771	118,543,805	885,801,576
1924 . . . . .	1,277,439,144	800,966,837	139,970,143	940,936,980
1925 <sup>b</sup> . . . . .	1,322,858,167	773,086,410	154,410,967	927,497,377

<sup>a</sup> From April 1, 1923, the figures relate to Great Britain and Northern Ireland, and include the trade between that area and the Irish Free State.

<sup>b</sup> Provisional figures.



## IMPORTS AND EXPORTS FOR 1918 (UNITED KINGDOM) AND 1925 (GREAT BRITAIN AND NORTHERN IRELAND) (LATER YEAR PROVISIONAL)

Import values C. I. F. Export values F. O. B.	Total	Imports	Domestic exports		Foreign and Colonial exports		
	1918 1,000 £		1925 1,000 £	1918 1,000 £	1925 1,000 £	1918 1,000 £	1925 1,000 £
I. Food, drink, and tobacco—							
Grain and Flour . . . . .	84,403	111,878	2,305	9,050	1,646	3,543	
Feeding-stuffs for animals . . . . .	4,870	9,068	2,170	3,080	72	273	
Meat . . . . .	56,421	122,465	1,196	1,727	2,107	4,402	
Animals living for food . . . . .	805	17,576	43	165	23	...	
Other food and drink, non-dutiable . . . . .	82,434	175,350	24,786	33,920	5,890	10,508	
Other food and drink, dutiable . . . . .	58,683	118,180					
Tobacco . . . . .	8,033	17,097	3,376	7,056	265	1,131	
Total, class I . . . . .	295,149	571,614	33,876	54,997	16,256	32,165	
II. Raw Materials, etc.—							
Mining, etc., products: coal . . . . .	6	20	50,727	50,477	....	....	
Mining, etc., products: other . . . . .	3,114	5,746	869	1,952	524	621	
Iron ore and scrap . . . . .	7,454	5,110	419	447	9	1	
Non-ferrous ores and scrap . . . . .	12,573	16,498	168	1,327	601	865	
Wood and timber . . . . .	33,789	46,511	341	756	833	708	
Raw cotton and cotton waste . . . . .	70,571	125,581	....	1,766	9,143	11,115	
Wool, and woolen rags . . . . .	37,736	76,033	4,623	11,496	13,574	32,113	
Silk, raw, knubs and noils . . . . .	1,296	1,658	120	64	102	95	
Other textile materials . . . . .	18,455	18,153	314	549	5,177	2,395	
Oil seeds, oils, fats, gums, etc. . . . .	29,418	55,515	2,872	7,025	5,439	8,507	
Hides and skins, undressed . . . . .	15,067	21,808	1,886	2,911	8,411	14,843	
Paper-making materials . . . . .	5,816	11,109	958	1,865	298	71	
Rubber . . . . .	21,895	29,744	....	288	14,948	22,421	
Miscellaneous . . . . .	12,749	11,723	2,876	3,446	4,852	2,918	
Total, class II . . . . .	269,939	425,209	66,173	84,371	63,699	90,673	
III. Manufactured Articles—							
Coke and manufactured fuel . . . . .	31	10	2,932	3,837	3	....	
Earthenware, glass, etc. . . . .	5,408	10,095	7,427	12,979	229	248	
Iron and steel manufactures . . . . .	15,890	23,999	55,351	68,162	339	242	
Non-ferrous metals and manufactures . . . . .	29,601	38,142	12,036	16,841	8,252	4,236	
Cutlery, hardware, implements, etc. . . . .	6,699	9,666	7,129	9,085	1,522	1,411	
Electrical goods and apparatus . . . . .	1,587	4,271	5,386	11,589	239	224	
Machinery . . . . .	7,267	11,891	33,602	49,069	1,306	1,574	
Manufactures of wood and timber . . . . .	3,583	6,229	2,042	2,298	589	513	
Cotton yarns and manufactures . . . . .	9,208	9,831	126,467	199,305	1,898	1,790	
Woolen, worsted yarns and manufactures . . . . .	10,020	15,126	35,710	58,957	1,225	2,043	
Silk and silk manufactures . . . . .	15,115	22,584	2,158	1,842	1,768	2,871	
Manufactures: other textile materials . . . . .	9,813	18,185	16,070	27,888	2,423	2,724	
Apparel . . . . .	11,173	21,147	20,973	28,903	1,497	1,699	
Chemicals, drugs, dyes, and colors . . . . .	13,336	14,402	19,533	23,577	1,411	1,217	
Oils, fats, resins, manufactures . . . . .	13,798	36,638	4,444	10,226	448	3,650	
Leather and manufactures . . . . .	11,630	15,078	5,279	7,088	2,129	2,206	
Paper and cardboard . . . . .	7,692	15,085	3,679	9,832	277	266	
Vehicles (inc., ships and aircraft) . . . . .	5,629	12,308	24,508	32,754	695	790	
Rubber manufactures . . . . .	3,616	6,328	3,088	7,613	353	725	
Miscellaneous articles . . . . .	19,943	28,826	26,006	34,434	2,902	3,535	
Total, class III . . . . .	201,039	319,840	413,820	616,279	29,505	31,464	
IV. Animals not for Food . . . . .							
V. Parcel Post . . . . .	489	2,303	2,230	2,297	106	109	
	2,119	3,893	9,155	15,142	....	....	
Total . . . . .	768,735	1,322,858	525,254	773,086	109,566	154,411	

FINANCE. It cost the British government £826,099,778 to "carry on" during the 12 months ended Mar. 31, 1926. This sum was £27,000,000 more than was provided for in the estimates made in 1925 and £30,000,000 more than it cost to operate the government in 1924-25. Receipts were also heavier than anticipated (£812,061,658, as against an estimated £801,060,000), but were still not sufficient by £14,000,000 to meet expenses. It is not exactly correct to speak of this sum as a deficit, as expenditures included an item of £50,000,000 which went to the sinking fund for reduction of the national debt and was therefore not a real expenditure. Expenditures exceeded the original estimate because of the coal subsidy of £19,000,000, the Wembley Exhibition guaranty of £1,100,000, a grant-in-aid of £1,200,000 to Northern Ireland, and certain other supplementary allowances. Civil services were £17,000,000 more than in the previous year, and £20,000,000 more than first intended for the current year. The three fighting services were the exception on the expenditure side that did not run beyond estimates. In two years the cost

of government had advanced about £37,000,000.

Receipts present a happier picture, as the accompanying table indicates. Miscellaneous receipts, which include government war-stock liquidation, properly a capital entry, ran £10,000,000 beyond the estimate; motor vehicles brought more than £18,000,000, all for road building and road repair; supertax and corporations profits tax both ran ahead of the estimate, indicating that business had been doing better than it was disposed to admit the previous year. This did not involve any reduction under the above schedules for 1926-27, but it might mean that the motor-vehicle tax had outgrown the road building need for which it had hitherto been used and that the motor owner henceforth would have to share with estate owners and corporations the onus of expenditures made in behalf of others than himself. On the other hand, estate duty, income tax, and excess profits duty fell short of the sum expected from them. The payment of an installment on the Italian war debt was one of the innovations on the revenue side, and it was expected that a French

installment would be added in a year or two.

The British had been highly successful in establishing surpluses, and the aggregate over the previous seven years was £415,750,000. There is a general theory that debt charges must not exceed 50 per cent of the budget. Before the war these were £23,500,000 out of a total of £205,000,000, or 11 per cent; in 1925-26 they were £355,000,000 out of £800,000,000, or 44 per cent. Pensions were taking £121,000,000, as against £20,000,000 in 1914-15, when old-age pensions totaled £10,111,000 and there were little or no war pensions, in contrast to present payments on these items calling for £26,794,000 and £66,490,000.

colonies, £128,238,000; inter-Allied loans, £1,823,911,000; relief and reconstruction loans, £34,857,000; and other debts amounting to £4,832,000. The total gross debt of Great Britain at the end of March, 1925, was placed at £7,665,900,000.

**SHIPPING.** According to the United States Bureau of Foreign and Domestic Commerce, the net tonnage of vessels in foreign trade which entered British ports in 1925 with cargoes was 52,121,842 tons, an increase of 220,141 tons over the figure for 1924 and of 3,187,485 tons over 1923. Clearances with cargo totaled 58,026,943 tons, a decrease of 2,932,385 tons from the 1924 figure and of 9,892,822 tons from that of 1923.

## BRITISH BUDGET RETURNS FOR 1925-26

Classification	Estimates	Actual	Increase or decrease on 1924-25 actual returns
<b>Expenditures</b>			
Consolidated fund services:			
National debt—			
Interest, etc. . . . .	£305,000,000	£308,229,246	—£3,932,015
Sinking fund . . . . .	50,000,000	50,000,000	+ 5,000,000
Road fund . . . . .	16,900,000	17,455,044	+ 1,892,000
Payments to local taxation accounts, etc. . . . .	13,329,000	14,453,559	+ 486,413
Payments to Northern Ireland exchequer . . . . .	4,000,000	4,860,814	+ 1,089,154
Land settlement . . . . .	700,000	779,546	+ 116,184
Other consolidated fund services . . . . .	2,000,000	2,371,569	— 58,669
<b>Total . . . . .</b>	<b>391,929,000</b>	<b>398,149,778</b>	<b>+ 4,543,067</b>
Supply services:			
Army, navy, and air force . . . . .	120,513,000	119,377,000	+ 4,677,000
Civil services . . . . .	222,608,000	243,263,000	+17,129,000
Revenue departments and post office . . . . .	64,349,000	65,310,000	— 3,974,000
<b>Total . . . . .</b>	<b>407,471,000</b>	<b>427,950,000</b>	<b>+25,780,000</b>
<b>Grand total expenditures . . . . .</b>	<b>799,400,000</b>	<b>826,099,778</b>	<b>+30,323,067</b>
<b>Revenues</b>			
Customs . . . . .	102,040,000	103,487,000	+ 4,143,000
Excise . . . . .	137,220,000	134,560,000	— 568,000
Motor-vehicle duties . . . . .	17,500,000	18,056,000	+ 1,892,000
Estate, etc., duties . . . . .	66,500,000	61,200,000	+ 1,750,000
Stamps . . . . .	24,000,000	24,700,000	+ 1,850,000
Land tax, house duty, and mineral rights duty . . . . .	1,000,000	950,000	— 500,000
Property and income tax . . . . .	262,000,000	259,411,000	— 14,425,000
Supertax . . . . .	63,300,000	68,510,000	+ 5,830,000
Excess profits duties, etc. . . . .	4,000,000	2,000,000	+ 1,300,000
Corporation profits tax . . . . .	9,000,000	11,670,000	+ 6,430,000
Postal service . . . . .	57,000,000	35,750,000	+ 900,000
Telegraph service . . . . .		5,650,000	+ 50,000
Telephone service . . . . .		15,950,000	+ 950,000
Crown lands . . . . .	900,000	950,000	+ 10,000
Interest on sundry loans . . . . .	12,600,000	14,944,459	+ 3,003,575
Miscellaneous:			
Ordinary receipts . . . . .	14,000,000	17,348,621	+ 2,929,058
Special . . . . .	30,000,000	36,924,578	+ 9,961,429
<b>Total revenues . . . . .</b>	<b>801,060,000</b>	<b>812,081,658</b>	<b>+12,626,063</b>
<b>Surplus (+) or deficit (—) . . . . .</b>	<b>+1,660,000</b>	<b>+ 14,038,130</b>	<b>.....</b>

\* Deficit apparent rather than real, as explained heretofore.

At the end of the financial year, Mar. 31, 1926, the amount due the British Government from its Dominions and colonies and foreign governments reached a total of £1,991,838,000 (practically \$10,000,000,000). This amount was distributed as follows: Loans to Dominions and

In 1924 the net tonnage of American ships entering the ports of Great Britain and Ireland was 2,740,725, but only 1,360,895 tons cleared with cargoes. An improvement was shown in 1925 by the entrance of 2,539,297 tons and the clearance of 1,811,032 tons, with cargoes.

## ENTRANCES AND CLEARANCES WITH CARGOES AT BRITISH PORTS DURING 1924 AND 1925

Nationally	[Net tonnage]		1925	
	Entered	Cleared	Entered	Cleared
British . . . . .	38,422,440	37,405,290	34,597,114	37,148,012
United States . . . . .	2,746,725	1,860,695	2,589,897	1,611,032
Norwegian . . . . .	2,562,701	3,045,056	2,605,066	2,627,653
Dutch . . . . .	2,424,357	2,946,209	2,318,152	2,664,464
German . . . . .	1,920,068	2,298,564	1,797,015	1,786,041
Swedish . . . . .	1,686,107	2,038,750	1,557,837	1,741,174
French . . . . .	1,635,745	3,666,386	1,564,537	2,890,681
Danish . . . . .	1,489,385	2,334,836	1,464,282	1,972,645
All other . . . . .	4,014,178	5,868,592	3,683,442	5,585,241
<b>Total . . . . .</b>	<b>51,901,701</b>	<b>60,959,328</b>	<b>52,121,842</b>	<b>58,026,943</b>

**RAILWAYS.** The total railway mileage open for traffic in Great Britain in 1925 was 52,231. The Southern Railroad had 5457 miles of line (reduced to single track), the Great Western had 8913 miles, the London, Midland & Scottish had 19,776 miles, and the London and North Eastern had 17,374 miles. The total expenditure of British railroads in 1925 was £1,198,600,000, as compared with £1,190,574,786 in 1924 and with £1,141,543,561 in 1913, according to statistics issued by the British Ministry of Transport. The capital expenditure in excess of capital receipts in 1925 was £46,900,000. The balance sheet for 1925 showed a balance available for dividends and reserves (less interim dividends paid) of £21,200,000, as compared with £22,179,135 in 1924. During 1925 passengers carried on all the railroads of Great Britain numbered 1,232,561,000 compared with 1,236,210,027 in 1924. Of the 1925 total, the London, Midland & Scottish handled 333,527,248, the London and North Eastern, 220,533,133, the Southern, 192,188,233, and the Great Western, 119,692,256. The total freight traffic (including minerals) amounted to 315,848,000 tons in 1925, as against 335,496,000 tons in 1924. It was anticipated at the beginning of 1926 that the total expenditures on maintenance of permanent way and railroad works throughout the country and on maintenance and renewal of locomotives for the year would approximate £50,000,000. Of this amount £20,000,000 was to go toward the purchase of iron and steel materials.

The expenditure on maintenance of permanent way and railroad works was expected to require 200,000 tons of rails, boilers, fish-plates, bolts, boiler tubes, and sundry similar materials. On the railroad services themselves, 700,000 men were to receive wages totaling £120,000,000. In addition to this regular staff, the work was to employ directly or indirectly almost as many again. On the Southern Railway, among the largest works sanctioned or in hand, was the reconstruction of the Southampton docks. The scheme, which included the reclamation of a considerable portion of the fore shore, the construction of several huge concrete piers, the dredging of the river to permit ships to approach the piers at any time, a miniature new railway, and the erection of several big sheds and factories, was to cost £13,000,000. An electrification programme also had been arranged by the same railway, to cost about £2,820,000. The London, Midland & Scottish Railway has approved schemes for the improvement of its services and has placed orders with works on the Clyde and elsewhere for 127,000 tons of rails. Heavy expenditures had been sanctioned also by the London & North Eastern Railway. Their plans included the construction of 148 new locomotives for passenger and freight trains, 63 suburban type locomotives, 28 new engines of the improved "Director" type, and 7400 new cars of varying types. The total cost was estimated at £2,000,000.

**ARMY AND NAVY.** The military system of the United Kingdom provides for a regular and territorial army and a reserve. Troops in the regular army serve both at home and abroad. Territorial troops serve only at home in peace times. The regular army in 1926-27 totaled 211,890, of whom 61,543 were in India and Aden. The strength of the territorial army in February, 1926, was 144,645. See **MILITARY PROGRESS.**

The accompanying table from the *Statesman's Year Book* of 1926 shows the number by classes of the more important units of the British fleet, including the ships and vessels of the Dominion:

Class	Completed by end of		
	1924	1925	1926
Battleships and battle cruisers	22	22	22
Cruisers and light cruisers	48	50	49
Aircraft carriers and tenders	6	7	7
Flotilla leaders and destroyers	207	207	175
Submarines	66	65	59

See also **NAVAL PROGRESS.**

**GOVERNMENT.** George V, born June 3, 1865, was the reigning monarch in 1926. He succeeded his father, Edward VII, on May 6, 1910. The cabinet at the beginning of 1926 was as follows: Prime Minister, First Lord of the Treasury, and Leader of the House of Commons, Stanley Baldwin (appointed in November, 1924); Foreign Affairs, Sir J. Austen Chamberlain; Privy Seal, Marquess of Salisbury; President of the Council, Earl of Balfour; Chancellor, Viscount Cave; Exchequer, Winston Churchill; Home Affairs, Sir William Joynson-Hicks; Colonies, Leopold Amery; War, Sir L. Worthington-Evans; India, Earl of Birkenhead; Air, Sir Samuel Hoare; Admiralty, W. C. Bridgeman; President of the Board of Trade, Sir Philip Cunliffe-Lister; Health, Arthur Chamberlain; Agriculture and Fisheries, Walter E. Guinness; Scotland, Sir John Gilmour; Education, Lord Eustace Percy; Labor, Sir Arthur Ramsay-Steel-Maitland; Chancellor of the Duchy of Lancaster, Viscount Cecil; Public Works, Viscount Peel; Attorney-General, Sir Douglas Hogg; Pensions, George C. Tryon; Transport, Wilfrid Ashley; Solicitor-General, Sir Thomas Inskip; Postmaster-General, Sir William Mitchell-Thomson; Lord Advocate; William Watson; and Solicitor-General for Scotland, A. M. MacRobert.

#### HISTORY

**SITUATION AT THE BEGINNING OF THE YEAR.** In the early months of the year there was a general feeling of unrest caused largely by the fact that on May 1 there was more than a possibility of a serious labor upheaval due to the situation in the coal mining industry. Parliament opened on February 2 and in the speech from the throne an appeal was made for industrial harmony in order to insure the return of good times and prosperity which were already on the way. The government also promised stringent economies in the running of the government and promised financial aid for the development of the African possessions, with an eye especially to the production of cotton on a much greater scale than ever before. The Labor opposition in its reply to this speech criticized the government for its Russian policy, favored a disarmament conference, but asked what the government had specifically to suggest concerning disarmament, and, in general, accused the Baldwin government of failure to live up to promises made in the past. Mr. Lloyd George, as leader of the Liberal opposition, stressed the coming situation in the coal industry and asked the government what it intended to do about it. On February 11 the House passed the government bill providing £200,000 for the construction of steel houses in Scotland to relieve the notoriously bad housing situation that

existed there. A short time previously the Baldwin government had proposed a subsidy to any one who would build new homes, but the project fell flat, causing the ministry to determine to build houses itself through a government-controlled corporation.

**THE COAL STRIKE.** As stated above in the section on *Mineral Production*, a Royal British Coal Commission was appointed in 1925 to study every angle of the coal industry. The results of its investigation and its recommendations which were published on March 10 will be found in the above mentioned section. On March 24 the Baldwin ministry announced that it accepted the provisions of the report of the Royal Commission and was ready to enact them into legislation if the miners and the operators were willing to carry on the industry in accordance with its provisions. Shortly afterwards the employees and operators opened up direct negotiations with the report as a basis, but such negotiations were virtually foredoomed because of the shortness of time before May 1 when the government subsidy (which was paying about 40 per cent of the miners' wages) would end. One rock which nearly split the conference was the question as to whether the pay rate should be basic for the entire industry or whether it should be different according to localities, conditions, etc. The operators finally agreed with the miners that it should be basic throughout the entire industry. The operators served notice on April 15 that the existing wage agreement would terminate on May 1. The miners complained that this virtually put an end to free negotiations because the possibility of maintaining the *status quo* was now lost.

On April 27 Prime Minister Baldwin called both groups together under his chairmanship but was unable to effect any sort of *modus vivendi* for the continuation of the agreement. The best terms he could secure from the owners was an increase in the working day from seven to eight hours and a basis reduction of 13½ per cent in the national minimum coal wage. The eight hour day was to be in effect until 1929 when a commission was to determine whether conditions in the industry warranted a return to the seven hour day. When Mr. Baldwin presented these terms to the workers they stated that they would not "accept a reduction in wages as a preliminary to the reorganization of the industry," but they reiterated that they "will be prepared to give full consideration to all the difficulties connected with the industry when a scheme for such reorganization shall have been initiated by the government."

The rejection of the owners' offer of course meant that the miners were going to strike on May 1. Needless to say, they did, but not alone. On this date the Prime Minister was told that "the Executive Committees of the trades unions affiliated with the Trades Union Congress, including the Miners' Federation of Great Britain, have decided to hand over to the General Council of the Trades Union Congress the conduct of the dispute, and negotiations in connection with it will be undertaken by the General Council." Here was the general strike which had been the bugbear of Great Britain ever since 1919. At about the same time the General Council issued a call for a strike of the transport workers in case the matter was not settled by May 3. The general strike began when

1,405,000 skilled workers were ordered out to join the 1,120,000 coal miners who were out on strike. The government met the situation by first issuing a proclamation by the King which ran as follows:

BY THE KING—A PROCLAMATION—GEORGE I. R.

*Whereas*, by the Emergency Powers act of 1920, it is enacted that if it appears to us that any action has been taken or is immediately threatened by any person or body of persons, of such nature and on so extensive a scale as to be calculated by interfering with the supply and distribution of food, water, fuel or light, or with the means of locomotion, to deprive the community of the essentials of life, we may by proclamation declare that such a state of emergency exists;

*And whereas*, the present, immediate threat of cessation of work in the coal mines does, in our opinion, constitute a state of emergency within the meaning of the said act;

*Now, therefore*, in pursuance of the said act, we do, by and with the advice of our Privy Council, hereby declare that a state of emergency exists.

Given at our Court at Buckingham Palace this thirtieth day of April, in the year of our Lord 1926, and in the sixteenth year of our reign.

God save the King.

The issue was now clearly joined between the Trades Union Congress on the one hand and the government and operators on the other. Mr. Baldwin spared no effort to bring about conciliation. "The Government," he said, "wanted to get to the position where the Trades Union Council, on behalf of the miners, would say that they felt confident that, given a fortnight, a settlement would be arrived at on the basis of the report. At the last moment I and my colleagues, if we could have got that complete assurance, would have risked it; we would have asked for another fortnight, and I think, if necessary, would have paid for another fortnight. But there was no good going on, with the experience we had had for the past fortnight, in any negotiations unless we could have some assurance that there was a reasonable hope of success."

On Sunday night, May 2, the general strike took an unexpected turn which probably altered the entire chain of events. Union printers refused to permit a copy of the *Daily Mail* to be published which contained an editorial entitled "For King and Country" and which stated that no civilized country could permit a general strike. On Monday night Premier Baldwin told the House of Commons that "such actions as that, coupled with the notice that we had had of instructions sent out by representative leaders of the unions—instructions which the men could only carry out in many cases by breaking their contracts—made me realize that I had got to the point where it would be impossible for the Government—or for me to persuade the Government—to pursue these negotiations any further." His speech continued:

Stripped of all accessories, what was the position in which the Government found itself? It found itself challenged with an alternative government and a government ignorant of the way in which its commands were being carried out and incapable of arresting disobedience to them. . . . The miners have a dispute with the mine owners and the owners offer terms of pay and work which are rejected. The men refuse to accept either a minute extra or a penny off. They attempt to throw on the state the burden of maintaining the industry at a loss. The Trades Unions executives, through their council, have put all their resources at the disposal of the miners. . . . When you extend an ordinary trade dispute in this way from one industry to a score of the most vital industries in the country, you are changing its character. . . . I do not think that all the leaders who assented to the order for a general strike fully realized that they were threatening the

basis of ordered government and coming nearer to proclaiming civil war than we have been for centuries past. . . . I tried to cooperate with Mr. Pugh and his colleagues in the search for an agreement to the last possible minute, but I became convinced last night that Mr. Pugh and those with him who sought for peace were not in control of the situation and that it would be wrong and dangerous for the Government to continue talking unless we got an immediate and unconditional withdrawal of instructions for the general strike.

Mr. Baldwin, after making denial that any general attack on wages was contemplated, went on to say:

It is not wages that are imperiled; it is the freedom of our very Constitution; but I have confidence in the character of our people that we will see these troubles through. I can call to mind the observation of the late Minister of Labor, only two years ago, when he was asked whether the Government would give full protection to the men who worked during these disputes, and he said: "Yes, undoubtedly the Government will do all it possibly can to maintain the public utility." I echo his words and I say no man who remains at work shall be prejudicially affected afterward.

In reply to this statement of the Premier, J. H. Thomas, Secretary of the Railwaymen's Union and an opponent of calling the general strike, said, "We believe this course was taken, not by anti-patriots, not by people who wanted revolution, not by people who do not love their country, not by people who desired an upheaval. There are people on both sides who do not weigh these consequences. I do not disfigure that on the Labor side there are people who would like and welcome this day, but they are an insignificant minority."

Immediately after the breakdown of negotiations the Government issued the following statement on May 2:

His Majesty's Government believe that no solution of the difficulties in the coal industry which is both practicable and honorable can be reached except by sincere acceptance of the Coal Commission's report.

In the expression "acceptance of the report" are included both reorganization of the coal industry, which should be put in hand immediately, and, pending the results of the reorganization being attained, such interim adjustment of wages or hours of work as will make it economically possible to carry on the industry in the meantime.

If the miners, or Trades Union Committee on their behalf, were prepared to say plainly that they accept this proposal the Government would be ready to resume negotiations and continue the subsidy for a fortnight.

But since the negotiations which have taken place between the Ministers and members of the Trades Union Congress, it has come to the knowledge of the Government not only that specific instructions have been sent (under the authority of the executive of the trade unions represented at the conference convened by the Council of the Trades Union Congress) directing their members in several of the most vital industries of the country to carry out a general strike on Tuesday next, but that overt acts have already taken place, including gross interference with the freedom of the press.

Such action involves a challenge to the constitutional rights and freedom of the nation.

His Majesty's Government, therefore, before they can continue the negotiations, must require from the Trades Union Committee both a repudiation of the actions referred to that have already taken place and immediate and unconditional withdrawal of the instructions for a general strike.

The negotiating committee of The Trades Union Council sent the following letter to Mr. Baldwin the following morning (May 3) as an answer to the foregoing statement of the government:

Your letter announcing the Government's decision to terminate the discussion was received by the General Council with surprise and regret. The negotiations which had taken place between the Industrial Com-

mittee of the General Council and its representatives had been adjourned for a brief period in order to allow the Industrial Committee to confer with the full General Council and representatives of the Miners' Federation who were on your premises in order to advance full efforts which the Industrial Committee had persistently been making to accomplish a speedy and honorable settlement of the mining dispute.

The trades union representatives were astounded to learn that, without any warning, renewed conversations, which it was hoped might pave the way to an opening up of full and unfettered negotiations, had been abruptly terminated by the Government for the reasons stated in your communication.

The first reason given is that specific instructions had been sent under the authority of the trades union representatives, directing these members in several industries and services to cease work. We are directed to remind you that it is nothing unusual for workmen to cease work in advance under the circumstances as wage earners. And the specific reason for the decision in this case is to secure for the workers the same right as the employers insist upon with their workers—namely, that negotiations shall be conducted free from an atmosphere of strike or lockout. This is the principle which the Government have held to be cardinal in the conduct of negotiations.

With regard to the second reason that overt acts had already taken place, including those in interference with the freedom of the press, it is regretted that no specific action is contained in your letter.

The General Council had no knowledge of such acts having occurred and the decisions taken by them definitely forbid any such independent and unauthorized action. The council is not aware of the circumstances under which the alleged acts have taken place. It cannot accept any responsibility and is taking prompt measures to prevent any acts of indiscipline.

The Council regrets it was not given an opportunity of investigating and dealing with the alleged incidents before the Government made them an excuse of breaking off peace discussions, which were proceeding.

The public will judge the nature of the Government's intention by its precipitate and calamitous decision in this matter and will deplore with the General Council that the sincere work which the General Council has been engaged in to obtain an honorable settlement has been wrecked by the Government's unprecedented ultimatum.

To meet the situations bound to be created by the general strike the government immediately began to enroll special constables and moved the army and navy to vantage points, provided for the distribution of the necessities of life, and guided the activities of thousands of volunteers who desired to keep the industrial and social life of the country running in the normal channels as far as possible. The Government published a small newspaper, called the *British Gazette*, which gave only the most meagre accounts of the strike and official announcements. All means of locomotion were used to prevent a complete breakdown of the transportation system, and the government refused the aid of the workers who would keep transportation open for foodstuffs and other essentials. On May 5 the premier issued the following statement to the British people:

Constitutional government is being attacked. Let all good citizens whose livelihood and labor have thus been put in peril bear with fortitude and patience the hardships with which they had been so suddenly confronted. Stand behind the Government, who are doing their part, confident that you will cooperate in the measures which they have undertaken to preserve the liberties and privileges of these islands. The laws of England are the people's birthright. The laws are in your keeping. You have made Parliament their guardian. The general strike is a challenge to Parliament, and is the road to anarchy and ruin.

In reply to this appeal Ramsay MacDonald said: "This strike is in no way aimed against the government or the constitution, and that has been repeated again and again by the men in control of it. It is purely an industrial dispute. I hope that the people in foreign countries

will not be misled and that the constitutional traditions of my country will not be damaged by Government propaganda." On the same day Premier Baldwin announced that "the moment it (the strike) is officially and unconditionally called off the Government are prepared to resume negotiations." On May 6 the Trades Union Council replied that while it was ready to resume negotiations for an honorable settlement, it could not comply with the government's request for the unconditional withdrawal of the strike notices. Despite these apparently irreconcilable statements there were unofficial moves on both sides to attempt to find a formula for calling off the strike. At a meeting of the Trades Union Council on May 11, it was decided to "explore the position with a view to leaving no door shut that could be opened."

At noon on the next day, the Council held an hour's conference with the Prime Minister. As a result of this conference, Arthur Pugh, the chairman of the Trades Union Council, announced that the general strike had been ended. "In order to resume negotiations, the General Council of the Trade Union Congress decided to terminate the general strike to-day and telegrams of instruction are being sent to all affiliated unions. Members before acting must await definite instructions from their own executive councils." Sir Herbert Samuel, chairman of the Royal Coal Commission, subsequently issued a memorandum, which was accepted as the basis for the calling off of the general strike, and resuming negotiations on the coal controversy. The memorandum contained the following points:

1. The coal subsidy is to be renewed for such reasonable time as may be required.
2. The creation of a national wages board, including representatives of the miners, mine owners and neutrals, with an independent chairman to revise the miners' wages.
3. It is understood that there shall be no revision of the previous wages without sufficient assurances that reorganization of the coal industry as proposed by the Royal Commission shall be executed.
4. A committee is to be named by the Government with representation for the miners, which shall prepare legislative and executive measures necessary to effect the reconstruction of the coal industry.

According to a review published in *Current History* "the memorandum suggested that the revised wage scale be on simpler lines, if possible, than the old ones, and that they shall not adversely affect the wages of the lowest paid men. It also suggested measures to prevent the recruitment of new workers over 18 years of age into the industry, if unemployed miners were available, and provided that workers displaced by the closing of the uneconomic collieries shall be transferred, with Government assistance, as recommended by the Royal Commission."

The execution of the plans for complete reorganization of the industry according to many estimates would involve the displacement of 250,000 men in the mining industry.

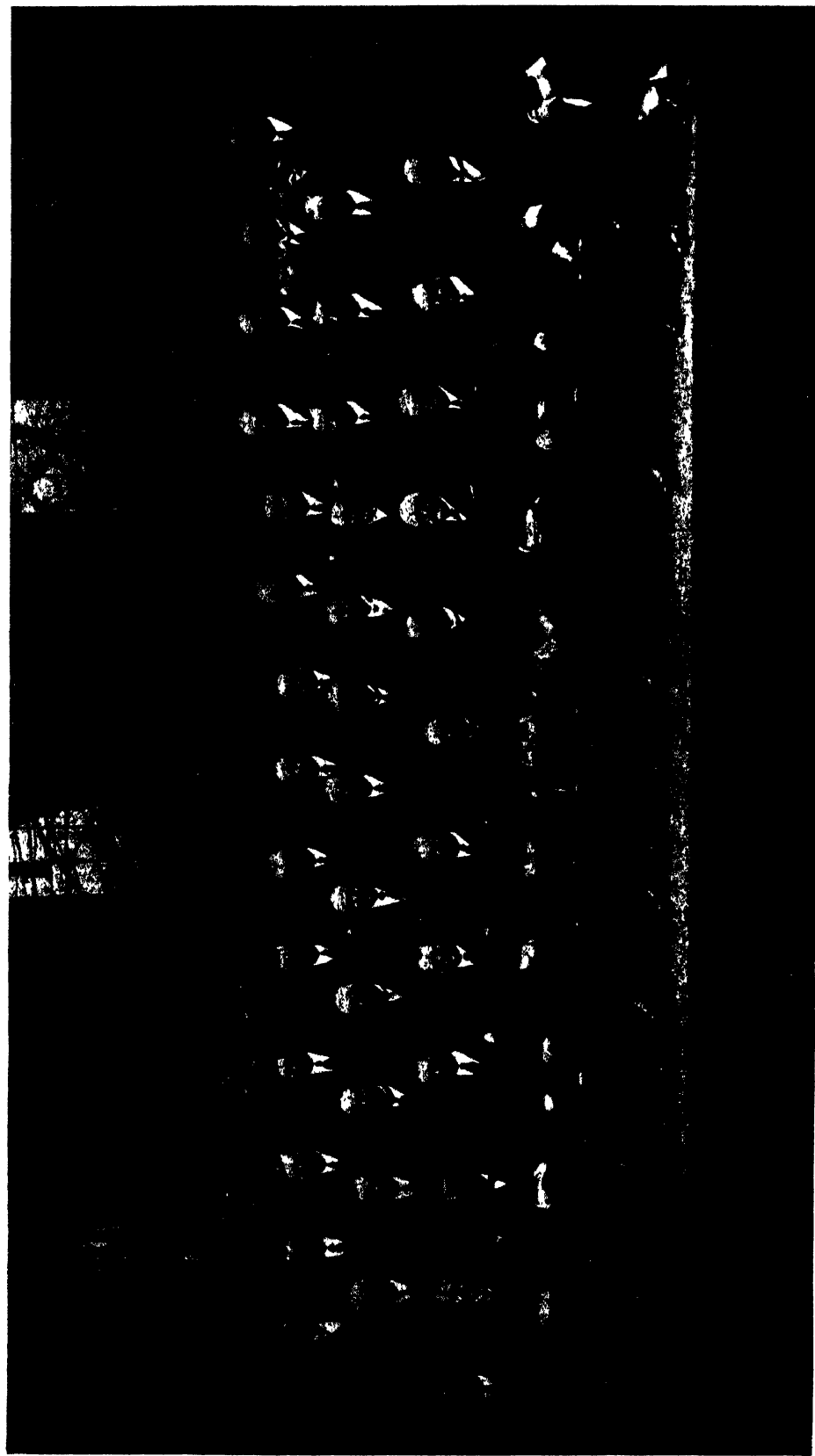
**THE POST-STRIKE PERIOD.** Great praise is due to both sides during the strike for the almost complete lack of violence. No serious disorders were reported and although thousands of idle men and women swarmed through the streets of the big cities the local police had scarcely any difficulty in maintaining order and keeping the crowds moving. After the general strike was abandoned it took a comparatively long time for conditions to return to normalcy. Those who

struck in sympathy with the miners filed many complaints of unfairness on the part of the employers when they again sought their positions, stating that attempts were being made to lengthen hours and reduce wages. The government stated very strongly that it was opposed to such methods and it must be said in fairness to the employing class that the complaints of the workers in nearly all the cases cited were unjustifiable.

The inherent weaknesses of a general strike were certainly obvious to all, workers and employers alike. When the government and public united and the army remained loyal, the strike was doomed from the outset. The question for the future was whether labor had lost during the general strike those things which it had undoubtedly gained after decades of struggle with the owner class. Many people took the attitude that the strike was unconstitutional, inasmuch as it was not a strike against the employers by the employees but was aimed primarily at the public and government to compel them to do something and not to compel the employers to settle a dispute with labor. A further breach was caused in the Liberal Party when Asquith bitterly criticized Lloyd George's support of the strike. On the other hand, Premier Baldwin stood out as the man of the hour. Formerly he was more or less colorless and not particularly popular but his masterful handling of a delicate situation made him the idol of the public.

The calling off of the general strike did nothing to settle the coal strike, however, and that continued with the usual result of paralyzing industry in general. A proposal made by the government in the middle of May was rejected by the miners and owners alike, although it was made along the lines of the report of the Royal British Coal Commission. The miners and their families were suffering considerably as a result of the strike and public sympathy seemed to be heartily in their favor. A public subscription was taken up to provide the common necessities for the children and wives of the workmen. On June 15 the government introduced a bill into Parliament providing for the eight hour day in the coal industry, over the strong protests of the Labor Party. It was rushed through the House of Commons and House of Lords and became a law early in July. This did not produce coal, however, and the government and private corporations was forced to import large supplies from the United States and Germany.

A break nearly occurred with Soviet Russia because of sums of money which had been sent to England, to support the general strike, by Russian workmen. The British government sent the following note: "His Majesty's Government regrets that it cannot maintain silence about the actions of the Soviet Government, especially in allowing the remittance to England of sums intended to support the general strike. The general strike was an illegal, unconstitutional act, being a menace to the established order of Great Britain. In particular, the activity of the Soviet Commissariat of Finance is not conducive to a friendly settlement of the questions outstanding between the two states, which settlement the Soviet Government professes to desire." Moscow replied that there was no law in Russia preventing workers sending money to Great Britain. While not satisfied with the Soviet reply, the Baldwin Government paid no



*Wude World Photos*

MEMBERS OF THE BRITISH IMPERIAL CONFERENCE

HELD AT LONDON, OCTOBER 19, 1926





heed to those who demanded a break in relations with the Soviet Government, and apparently let the matter drop.

**THE END OF THE COAL STRIKE.** Seven months after the beginning of the costly coal strike, it was virtually brought to a close on November 19 by the complete surrender of the mining unions. The victory of the operators was almost complete. The miners were compelled to give up the struggle chiefly because their resources were shattered and the men were rapidly returning to work despite the efforts of the leaders to hold them together. The chief thing that the miners lost was the demand for a national settlement. They were forced to accept district settlements which entailed a difference in the working day and basic pay. Some went back to the 7-hour day, some accepted the 7½-hour day, and some the 8-hour day. The owners' share of the distributable proceeds of the industry was to be not more than 15 per cent and not less than 13 per cent. This was the basis for settling the miners' pay. The settlement paid no attention to the report of the Royal Coal Commission and made no provision against the recurrence of trouble. Hunger and economic conditions forced the terms and as soon as they are appeared more disturbances will indubitably ensue.

**THE BRITISH IMPERIAL CONFERENCE.** On October 19, the Ninth Imperial Conference of the various members of the British Empire assembled in London to discuss defense, imperial trade and settlement, and foreign affairs. Each of the dominions was represented by its premier and India was also represented. Great Britain was represented by Stanley Baldwin; India, Earl of Birkenhead; Canada, Mackenzie King; Australia, S. M. Bruce; South Africa, General Hertzog; Ireland, W. T. Cosgrave; New Zealand, J. G. Coates; and Newfoundland, W. S. Monroe. Committees were shortly appointed under the headings of Economic Committee, a Committee of Premiers Investigating Inter-Imperial Relations and a Committee on Overseas Settlement. The important changes brought about as summarized in the January, 1927, issue of *Current History*, where the full text of the report will be found, were as follows:

(1) The title of the King was changed to bring it into accord with the present status of the Irish Free State. It now runs as follows: George V, by the Grace of God, of Great Britain, Ireland and the British Dominions Beyond the Seas, King, Defender of the Faith, Emperor of India.

(2) It was declared that the Governor-General of a Dominion "is a representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in a Dominion as is held by his Majesty the King in Great Britain, and he is not a representative or agent of His Majesty's Government in Great Britain, or of any department of that Government." In the future the recognized channel of communication between a Dominion and Great Britain was not to be the Governor-General, but from Government to Government, direct. The Dominions were defined as "autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by common allegiance to the crown and freely associated as

members of the British Commonwealth of Nations."

(3) General principles intended to establish the Dominion Legislatures upon an equality with the British Legislature were laid down, and it was recommended that an imperial expert committee be set up to recommend a detailed plan for putting these principles into effect.

(4) It was recommended that a subcommittee be set up to report on imperial merchant shipping regulation.

(5) It was set forth that, though it was no part of the policy of the King's government in Great Britain that cases should be appealed from the highest Dominion courts to the Judicial Committee of the Privy Council except in accordance with the wishes of the part of the Empire primarily affected, yet it was recognized that where constitutional or legal matters affected other parts of the empire appeals might be desirable. The purpose was evidently to leave the way open for the continued existence of the useful imperial supreme court upon which the Dominions were already represented.

(6) In connection with the relations of members of the British Empire with foreign nations, provision was made for the independent negotiations of treaties by each member. The propriety of Dominion diplomatic representation in foreign capitals was recognized.

(7) The report suggested the development of a permanent and regular system of communication between Great Britain and the Dominions, especially for the purpose of maintaining close personal contact between sessions of the Imperial Conference. In a special section, the conference approved the methods by which Great Britain became a party to the Treaty of Locarno, but decided that this pact should not be ratified by the Dominions.

**GRECIAN ARCHÆOLOGY.** See ARCHÆOLOGY.

**GREECE.** A republic in southeastern Europe, comprising the lower Balkan peninsula and many islands in the Aegean Sea; formerly a constitutional monarchy. King George II was forced to leave Greece Dec. 19, 1922 and the republic was established April 13, 1924 as the result of a plebiscite. In continental Greece are included Macedonia, Western Thrace, and Epirus; the chief island possession is Crete (q.v.). Capital, Athens.

**AREA AND POPULATION.** The total area of Greece before the Balkan Wars of 1912-13 was 25,223 square miles; as a result of these wars Greece added 20,730 square miles to her territory. According to the Treaty of Lausanne (1923) Greece obtained a further area of 3182 square miles; the total area of the present Greek republic is 49,135 square miles. According to the census of 1920 the population was 5,536,375. It was estimated that between August, 1922, and January, 1925, 1,350,000 Greek refugees returned to Greece from Asia Minor, and that the total population of the country might be put at 6,200,000.

**EDUCATION.** Education is compulsory for all children between the ages of seven and 12, although the law is not very well enforced in the rural districts. The latest school census showed 7200 primary schools with 13,996 teachers and 499,084 pupils. For the secondary education there were in 1924-25 650 high schools with 2523 teachers and 86,500 pupils. In the

same year there were 24 commercial schools with 188 teachers and 3607 pupils. There are two universities in Athens; the National University and the Capodistria University with 61 professors and 9790 students. A third university, founded at Saloniki, began work in the fall of 1925. There are also various technical and agricultural schools.

**PRODUCTION.** According to *Commerce Reports*, the increasing influence of the refugee population on Greece's agricultural population was shown in the estimates for 1925 crops, tobacco returning 55,770 metric tons, as compared with 41,000 in 1924, and production of fine cigarette tobacco in the Kavala district of Macedonia being stimulated. Cotton raising and silk cocoon culture, both largely new-line work by refugees, were reported to have reached unprecedented figures in 1925, raw cotton to 12,000 metric tons (about 4000 tons ginned) and silk cocoons to 3200 metric tons. Cultivated acreage was estimated to have doubled in 1925. The wheat crop, though totaling 11,440,000 bushels as against 9,661,000 bushels in 1924, met only half the domestic needs. Wheat and flour therefore continue to lead Greek imports, with the United States as the principal source for the flour. Rye, barley, oat, and corn crops were normal. Currants, an important export crop, dropped to 125,000 metric tons from 150,000 tons in 1924, with the severe crisis from the latter year's overproduction prolonged through 1925. Raisin production was reported larger, sultanas reaching 23,000 metric tons and rozakias (from Crete) 12,000 tons. The fig crop reached 13,500 metric tons in 1925, as against 12,976 tons in 1924. The olive crop was so poor in 1925 (44,834 metric tons, as against 112,210 in 1924) that the government prohibited exportation of olive oil. As lean and heavy crops alternate, the 1926 harvest was expected to equal that of 1924. The government was reported, therefore, to be planning to lift the export embargo.

The year 1925 was an excellent one for Greek industries; most of those already existing expanded their installations, and 216 new enterprises were established under the stimulus of government protection. The latter included 43 woodworking shops, 25 textile factories, 12 oil mills, 12 flour-products establishments, and nine ice plants. Under the conditions of drachma depreciation, shortage of ready money, and increasing prices of raw materials, many private industrial enterprises were converted into stock companies; their capital was enlarged accordingly. Industrial production as a whole did not show noticeable value increases during the year, though quantity increases were evident in some lines, particularly building materials, fertilizers, cotton and woolen manufactures, rugs, and silk goods. The foodstuffs industry (chiefly flour milling), with its production value of \$57,864,471, comprised half of the country's estimated industrial output for 1925.

Mineral production in 1925, with the exception of zinc, lead compounds, magnesite, and lignite, followed the general decline characterizing Greek output during the previous 10 or 12 years. Production figures for the leading Greek minerals in 1925, as estimated by the ministry of agriculture, commerce, and industry, were as follows (in metric tons and with 1924 figures in parentheses): Lignite, 136,104 (111,000); magnesite, 90,828 (58,213); iron ore, 88,216

(96,000); salt, 77,714 (75,000); lead compounds, 76,716 (53,600); iron pyrites, 65,000 (76,051); calcined magnesite, 28,425. Nickel ore production, negligible since 1918, will be resumed in 1926 or 1927, according to a contract concluded in November, 1925, between the government and a British firm.

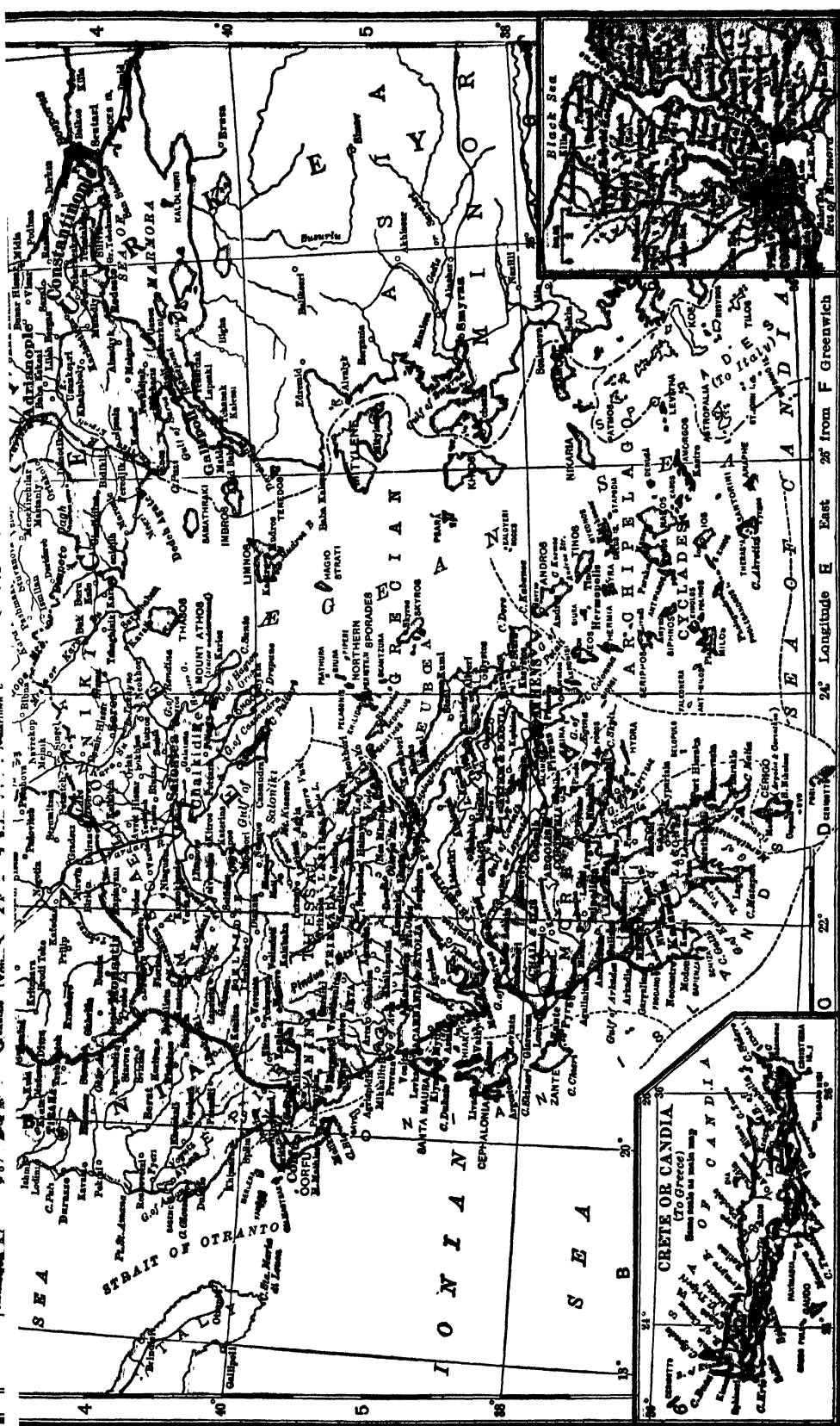
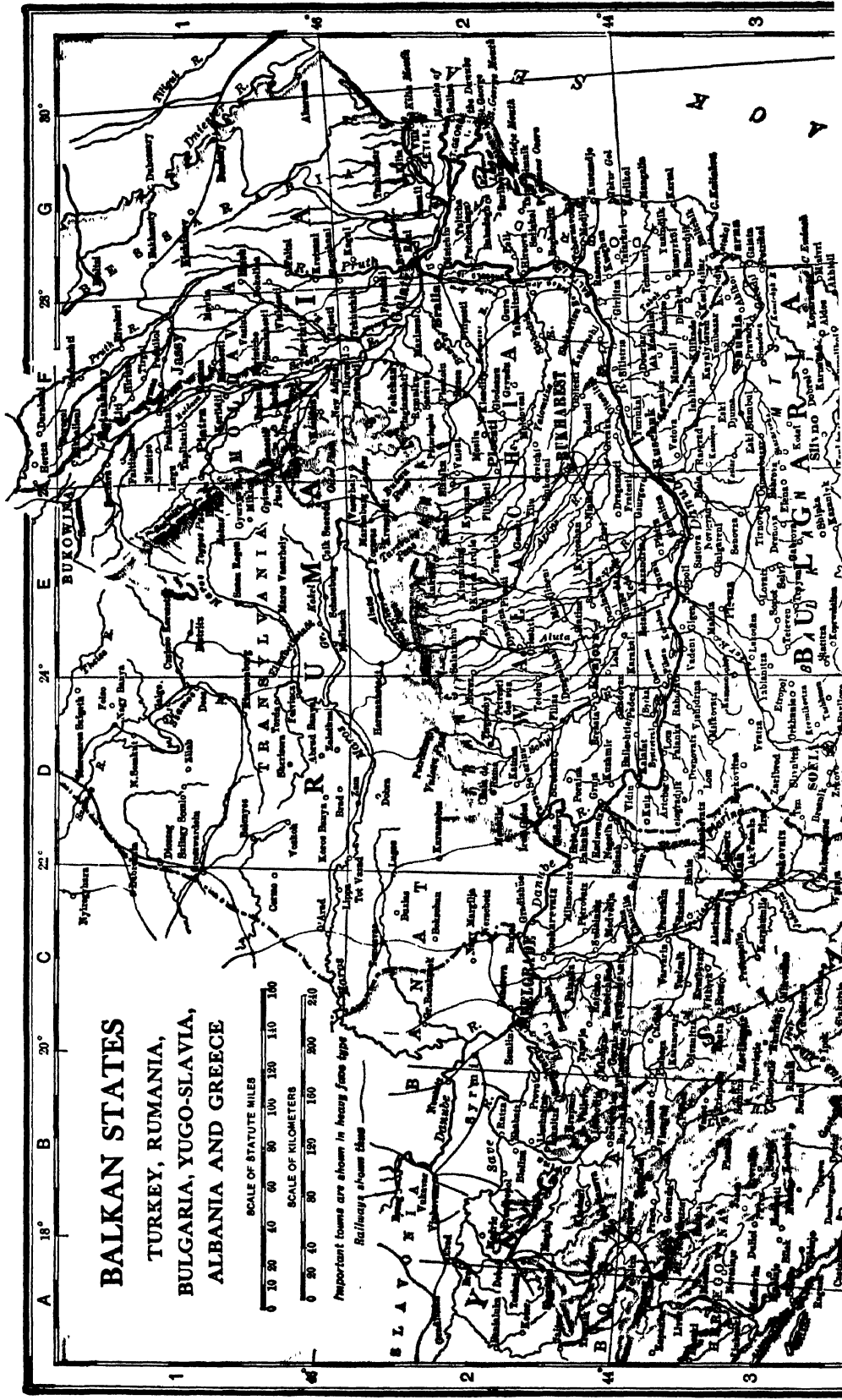
**COMMERCE.** Greek foreign trade for 1925 showed large increases over 1924, the imports totaling \$153,411,165 as compared with \$144,162,381 in 1924, and exports amounting to \$67,237,022 as compared with \$58,971,603 in 1924. Although the relation between imports and exports improved, the imports being 128 per cent greater as against 139 per cent in 1924, the import surplus still showed an increase of \$669,544 in gold values. The excess of imports was to a certain extent counterbalanced by such invisible items as emigrants' remittances, tourist expenditures, merchant marine earnings, and income from foreign investments. Emigrants' remittances, however, showed a decided decrease in 1925, recorded receipts totaling only \$31,615,000 as compared with \$37,544,000 in 1924—a result that was attributable in part to drachma fluctuations and the attendant lack of confidence abroad and in part to American immigration restrictions. Because of the abolition of certain Greek statistical services, no detailed trade figures for 1925 were available in 1926. Statistics for 1924 show that wheat and flour led all other imports, followed by cotton cloth, sugar, wool cloth, machinery and tools, lumber, and fuel, including coal and oil. Export items were less widely distributed. Tobacco and cigarettes, with currants, accounted for nearly 70 per cent of the total export values; other exports were raisins, wines, and olives.

The increase in 1925 imports was accounted for by three major factors: The local demand for grain, following the comparatively short domestic cereal crop of 1924; the large orders placed by importers preparatory to the application of the new tariff code of Jan. 1, 1926; and the expansion in Greek industries and a resultant demand for machinery and raw materials. The increase in the 1925 exports resulted chiefly from the heavier exports of staple agricultural products, such as tobacco, olives, skins, soap, etc., and from price increases through legislation in favor of export products, such as the establishment of the office for the protection of tobacco, and the central currant office. The development of Greek total trade values during the last six years as compared with pre-war trade, is shown in the accompanying table, as well as the rapid increase in the import surplus.

The figures of exports to the United States, as declared through the American consulates in Greece, showed a total value for 1925 of \$28,082,700 as compared with \$32,553,400 in 1924. This decline resulted from a reduction in the value of shipments of leaf tobacco to \$22,765,600 from \$27,687,200 in the earlier year, but with an accompanying increase in quantity to 25,498,400 pounds from 24,550,700 pounds. Other important items in this declared export trade were currants, hides and skins, olives and olive oil. About three-fourths of the total value was accounted for by shipments from Saloniki, the leading port for tobacco exports.

**FINANCE.** A considerable economic advance was made in Greece during the fiscal year ended









VALUE OF GREEK FOREIGN TRADE  
[000 omitted]

Calendar year	Imports		Exports		Import surplus	
	Drachmas	Dollars *	Drachmas	Dollars *	Drachmas	Dollars *
1918.....	177,938	84,341	119,001	22,967	58,932	11,374
1920.....	2,181,038	285,480	664,113	73,385	1,466,925	162,095
1921.....	1,725,605	100,775	947,729	55,347	777,876	45,428
1922.....	3,085,475	101,512	2,485,080	81,759	600,395	19,753
1923.....	6,085,346	102,601	2,545,110	43,267	3,490,236	59,334
1924.....	8,058,764	144,162	3,276,972	58,658	4,776,793	85,505
1925.....	9,834,049	153,411	4,310,066	67,237	5,523,984	86,174

\* Exchange rates used in conversion are: 1913 (par), \$0.193; 1920, \$0.1105; 1921, \$0.0584; 1922, \$0.0329; 1923, \$0.017; 1924, \$0.0179; 1925, \$0.0156.

Mar. 31, 1926. The acute financial problem was then the only important obstacle to economic recovery; but that dominated all other phases of the situation and made the business outlook uncertain. There was during 1926 a serious shortage of ready money, both for government and business purposes, and the drachma continued to depreciate steadily in spite of the temporary relief resulting from the forced loan of January, 1926. Interest rates were very high (the legal rate in September, 1926, being 12 per cent), and the cost of living reached a record high point in July of the same year. If this financial stringency and the resultant uncertainty can be resolved, Greece will be able to profit from its still only partially developed mineral wealth, its expanding industries, and its growing agricultural production.

In an effort to relieve the financial situation, the government imposed a number of new taxes, particularly new tobacco consumption taxes, new import duties, and a land tax of 5 per cent on crops. Efforts toward administrative economies included the abolition of the ministries of national economy, hygiene, and public assistance and the discharge of more than 5000 government employees. Military expenditures, however, have correspondingly increased. The 1925-26 budget estimate showed a theoretical surplus of 200,000,000 drachmas, but toward the close of the fiscal year there appeared to be an actual deficit, estimated at nearly 1,000,000,000 drachmas. The 1926-27 budget estimates were balanced at 8,821,619,843 drachmas; in addition, a theoretical reserve fund of 350,000,000 drachmas had been established to provide for possible excess expenditures. The general opinion was that the new taxation would yield less than estimated, and that the obligations to be assumed would exceed the expenditures foreseen in the budget.

The total public debt of Greece, as of May 31, 1926, according to the ministry of finance, amounted to 10,803,371,841 drachmas. Of this total, 2,249,881,063 drachmas represents internal indebtedness. Bank-note circulation has shown a sharp decrease during the year, the official total for Mar. 31, 1926, being 4,893,507,790 drachmas as compared with the high point of 6,049,488,415 drachmas reached in the autumn of 1925. This reduction has been accomplished by the repayment of some of the government's debts to the national bank, against which the latter had issued bank notes.

COMMUNICATIONS. Greek shipping on Mar. 31, 1926, according to official figures, accounted for 468 steamers and 755 sailing vessels aggregating 977,839 gross tons, or approximately the same as in 1925. The crisis which affected the Greek merchant marine during 1924 had not yet ended in 1926; passenger steamers particularly were handicapped by high operating costs and relatively small freights. Railway traffic had in-

creased greatly, but in spite of cooperative efforts by the government and the local companies to improve and extend communications, the railroads were still inadequate to satisfy the country's needs with its 30 per cent increase in population (refugees). Freight and fare rates had been considerably increased. The length of railways in 1923 was about 1700 miles, of which three-fourths were of standard gauge.

GOVERNMENT. Until December, 1923, executive power was vested in the king, acting through a responsible ministry. On Dec. 18, 1922, George II, who had reigned since Sept. 27, 1922, was compelled to leave Greece until the people had an opportunity to decide for themselves whether they wanted a monarchy or a republic. In the meantime Admiral Koundouriotis acted as provisional president. The people, in April, 1924, voted more than two to one for a republic, and a National Assembly was elected to draw up the constitution. In September, 1925, this body was dissolved by General Pangalos, who announced that new elections would be held in 1926. He virtually made himself dictator and at the beginning of 1926 was in absolute control of the government. President Koundouriotis resigned from the provisional presidency on Mar. 19, 1926.

#### HISTORY

DICTATORSHIP OF GENERAL PANGALOS. As noted in the preceding YEAR BOOK, General Pangalos took over the reins of the government of Greece in July, 1925, upon the downfall of the Michalakopoulos government. On Jan. 3, 1926, he announced what was practically a military dictatorship. He declared that the republican constitution of Greece was null and void and that the woes of the country were due to the inherent weaknesses of the parliamentary form of government as established by Venizelos and his followers. He outlined great plans for the return of Greece to her former ancient prestige, and many critics could not but help compare his rather bombastic remarks with those uttered by Mussolini from time to time. He did say, however, that his rule was only temporary and would be abolished as soon as the evils infesting the country were eradicated. One of his first acts was the putting through of a forced loan by reducing the value of the Greek currency in circulation. During February, by a series of arrests and free use of the exile power, he practically drove every one of his political enemies out of the country or put them in prison. The Greek people showed no particular enthusiasm for the new "strong man" but neither did they show any resentment. General apathy and stagnation prevailed everywhere.

As noted above under *Government*, Admiral Koundouriotis, who became the president of the republic after the forced exile of King George

II, resigned in the middle of March. The position he held was of no value considering the fact that General Pangalos was completely in the saddle. One result of his resignation was the precipitation of an election for his successor. General Pangalos entered the field and was opposed by Constantine Dimertji, a former Minister of Marine. Inasmuch as the election was completely in the hands of the dictator there was not much chance of Dimertji's winning. The General divided the voting into two parts, in some provinces on April 4 and in some others on April 11. In the first election General Pangalos received about nine-tenths of the votes, chiefly because his opponents dissatisfied with the arrangements for the election, refrained from voting. Between the 4th and the 11th Dimertji, the opposition candidate, retired, with the result that Pangalos was the sole candidate on the 11th. General Pangalos interpreted the election as an indorsement of his actions and when he was inaugurated on April 18, he stated that he would possibly give up his dictatorial powers. Early in May he repudiated this statement and announced that he would continue to act as President-Dictator. Although General Paraskevopoulos was the possessor of the title of premier, it was a very empty honor.

**OVERTHROW OF PANGALOS.** During the early summer there had been continued rumors of a movement to overthrow the Pangalos régime. The event finally came about on August 22 under the leadership of General Condylis, with the entire support of the army and navy. The revolution was aimed to bring about "the sound reorganization of the armed forces and the administrative machinery of the country." General Pangalos was accused of issuing unlawful decrees, nullifying the constitution and personal liberty, and various other illegal acts. The plans of the conspirators worked without a hitch: Pangalos was arrested and put aboard a steamer bound for Athens; the army and navy took possession of public buildings; Admiral Koundouriotis was again proclaimed president; and General Condylis announced a temporary ministry and promised regular constitutional elections in the autumn. One important result was immediately accomplished by the new government when it signed five treaties with Jugo-Slavia, four commercial agreements and a treaty of friendship and mutual amity. Similar treaties were immediately gotten under way with Albania, Bulgaria, and Turkey. In early September General Condylis was almost overthrown by a counter revolution carried out by a military organization, independent of the army and the navy, which had been organized by General Pangalos to strengthen his position. The Republican Guard, as this military organization was called, was completely suppressed by the new government. On September 24, Condylis announced that elections to the new Chamber of Deputies would be held on October 24, and that this body would meet on November 11, and would have full power to change the constitution in any way it saw fit. He offered to resign so as not to interfere with freedom of election, but the President asked him to remain in office until after the elections were over.

**THE ELECTIONS.** Although the elections did not take place on the date promised by General Condylis, they did occur on November 7. Although there were several small parties in the

race as well as several "personal candidates," the contest was chiefly between the republicans and the royalists. Nearly 1,000,000 votes were cast and the republicans won a majority of the seats (155 to 125). On November 29, General Condylis, who had previously announced that he would retire in the event of a republican victory, did so, and was succeeded as Premier by M. Kafandarlis, the leader of the largest republican group, on December 2. General Metaxas, one of the chief leaders of the royalist groups, stated that he would support the new government if the army was completely kept out of politics. The new Parliament met on November 26 and in the first week was expected to restore the constitution of 1925 with certain modifications that would make it acceptable to all parties. The leaders of Greek political life all seemed to believe that the rule of "military dictators" was over.

**GREEK ARCHÆOLOGY.** See ARCHÆOLOGY.

**GREENLAND.** The largest island in the world next to Australia; the only colonial possession of Denmark. The area is variously estimated from 826,000 to 849,000 square miles. The settled portion, the only part included in Denmark's colony, has an area of 46,740 square miles, with a population at the census of 1921, of 14,355, of whom 274 were Danes. The largest settlement is Sydproven, with a population of 901, and the smallest, Skansen, with a population of 49. The interior remains unknown in detail, but the main geographical features are understood. Nearly the whole country consists of a plateau from 2000 to 3000 meters above the level of the sea, which means that it is covered by a thick, permanent coat of snow and ice, only about one-twenty-fifth of the surface being free from it and suitable for cultivation. Most of the inhabitants are located on the coast or on adjacent islands. In 1923 the exports to Denmark were valued at 4,410,000 kroner and the imports from Denmark were valued at 2,388,000 kroner. The trade, chiefly in seals, sealskins, fox skins, and oil is a monopoly of the Danish government. At the head of the government is a director who resides in Copenhagen.

The Government of Denmark continued its labors for the benefit of its Arctic colony. For science, it was building at Godhavn an observatory for meteorological and other physical observations. Its archaeological and geological expedition to southern Greenland, under Noerlund, discovered this year the foundations of a bishop's palace and a cathedral, at Ivigo where a Norse colony lived about 1000 A.D. These structures, built of red sandstone, probably in the 12th century, covered over five acres; the remains of other near-by buildings indicated a large settlement. More important were the growth and success of the Eskimo colony, from the west coast, planted on the East Greenland shore, to offset the exploitation of the local game by the Norwegian fishermen. The original colony, established on the shores of Scoresby Sound in 1924, consisted of about 40 Eskimos, who were supplied with food for over three years. Houses and other conveniences were constructed, while six Danish officials remained with them under Governor Petersen. During the summer of 1925, the East-coast Eskimo of the Angmassalik district, to the number of 90, were added to the colony, with ample supplies. The vegetation on the shores of Scoresby Sound was excellent, and am-



ple for large herds. On land were numerous musk-oxen, polar bears, foxes and hares. At sea were many seals, walruses and fish.

In 1926 the Greenland explorer, Lauge Koch, joined the colony for scientific research,—geological and otherwise. During the winter he was to work in that district. In 1927 he planned to determine the coast resources as far north as Danmark Haven, and later cross the inland ice to the west coast. The question of fuel supply, always difficult within the arctic regions, was settled by an abundance of coal veins, easy to mine. See POLAR RESEARCHES.

**GREENWAY, JOHN CAMPBELL.** American mining engineer and soldier, died at New York City January 19. He was born at Huntsville, Ala., July 6, 1872, and after studying at the University of Virginia graduated from Yale University in 1895. Beginning as a helper at the Duquesne, Pa. furnaces of the Carnegie Steel Company, he worked in the steel industry until 1898, when he enlisted as a private in the First United States Volunteer Cavalry ("Rough Riders") in the Spanish-American War. He was commissioned second lieutenant, promoted to first lieutenant for gallantry in action at the Battle of San Juan Hill, and was recommended to Congress by his commander, Col. Theodore Roosevelt, for the brevet of captain. In 1899 he became assistant superintendent of mines for the United States Steel Corporation at Ishpeming, Mich., serving in this capacity until 1906, when he became general superintendent of the Oliver Mining Company at Mesaba Range, Minn. In 1910 he became general manager of the Calumet & Arizona Mining Company, and for a time was identified with copper mining in the southwest, being general manager of the New Cornelia Copper Company at Tucson, and vice-president of the Cornelia & Gila Bend Railway. At the outbreak of the World War he was commissioned major of engineers serving in France with the first and twenty-sixth divisions of the A.E.F., and later commissioned lieutenant colonel of the One-hundred and first Infantry. He was in action on the Cantigny, Château Thierry, St. Mihiel, Argonne, and Meuse fronts. From the United States government he received the D.S.C., and from France, the Croix de Guerre with two palms, the Order of the Legion of Honor, and Croix de l'Étoile Noire. He at one time was a member of the Board of Regents of the University of Arizona, and chairman of the defense committee of the Council of Defense of that state.

**GRENADA,** grē-nā'dà. An insular possession of Great Britain in the Windward group of the West Indies. Area, 133 square miles; population at the census of 1921, 66,302; estimated in December, 1924, 68,957. Grenada includes half of the Grenadine Islands, the other half being administered from St. Vincent. The capital is St. George with a population of about 5000. In 1926, a movement was started to develop a hydroelectric power plant in the centre of the island to supply electric power for lighting purposes to St. George. In 1924 the movement of population was: Births, 2197; deaths, 1156. In 1924 there were 58 government and government-aided schools for elementary education with 10,704 pupils and one secondary school. The chief products which are also the chief exports are: Cacao, spices, lime juice, cotton, and cotton seed. The production of sugar was rapidly increasing; in

1924, the local production of rum was 25,077 proof gallons. In the same year the revenue was £117,453 and the expenditure, £106,003. The exports were £344,879 and the imports, £272,291. The total shipping entered in 1924 was 392,638 tons, nearly all British. The colony is under the governor of the Windward group, but has its own institutions. Governor and Commander-in-Chief of the Windward Islands, including Grenada, Sir Frederick Seton James; Colonial Secretary for Grenada, H. Ferguson.

**GRENFELL, BERNARD PYNE.** Honorary professor of papyrology at Oxford University, died at Eley, Perth, May 17. He was born at Birmingham, Dec. 16, 1869, the eldest son of John Granville Grenfell, Master at Clifton College. He was educated at Clifton College, and at Queen's College, Oxford, where he became a fellow in 1894, and was also Craven fellow in the University of Oxford, 1894-95. From 1894 he was active in the discovering and editing of Greek papyri, translating and editing a long Greek roll placed in his hands by Flinders Petrie. This was found to contain revenue enactments of Ptolemy Philadelphus I, and two years later Grenfell acquired a companion roll which was translated and edited for publication with an introduction by Professor Mahaffy. He spent several seasons at Oxyrhynchus in the first of which he discovered the tattered leaf bearing the famous "Sayings of Jesus." His work at Oxyrhynchus was developed in a number of volumes which brought to Grenfell and his collaborator, Hunt, many honors from universities and scholars generally. Grenfell received the honorary degrees of Ph.D. from Königsberg, Hon. Litt. D. from Dublin, Hon. D. Jur. from Graz, and was a member of important learned societies in Europe. He was Drexel medallist of the University of Pennsylvania in 1903, and in 1916 was made professor of papyrology at Oxford. His publications include: *The Revenue Laws of Ptolemy Philadelphus*; *An Alexandrian Erotic Fragment and other Greek Papyri*; and, in collaboration with A. S. Hunt, *New Classical Fragments and other Greek and Latin Papyri*; *Sayings of Our Lord from an Early Greek Papyrus*; *New Sayings of Jesus and Fragment of a Lost Gospel*; *The Geneva Fragment of Menander*; *The Oxyrhynchus Papyri*; *The Amherst Papyri*; *Fayûm Towns and their Papyri*; *The Tebtunis Papyri*; *Greek Papyri in the Cairo Museum*; *Hellenica Oxyrhynchica*; and *The Ithaca Papyri*.

**GROSSMANN, LOUIS.** American rabbi, educator, and leader of Hebrew organizations in Cincinnati, died at Detroit, Mich., September 21. He was born in Vienna, Austria, February 24, 1863, the son of a rabbi, and was educated in that city until 1874. Coming to America he studied at the University of Cincinnati, receiving the degree of B.A. in 1884, and graduating in the same year from the Hebrew Union College as a rabbi. He went to Temple Beth El, Detroit, as rabbi in the same year, remaining until 1898, when he was called to the Congregation B'nai Yeshurun in Cincinnati, serving until 1922, when he became rabbi emeritus. From 1898-1922 he held the chair of ethics, theology, and pedagogy in the Hebrew Union College from which he received his degree of D.D. in 1889, and that of Doctor of Hebrew Law in 1922. He was a founder and principal of the Teachers College, Cincinnati, for the training of Jewish teachers, and

an editorial writer on the *The American Israelite*. He was a member of many learned societies in America and Europe, and was one of the International Committee which organized the First Universal Congress of Races at London, July 26-29, 1911, as well as president of the Jewish Religious Educational Association of Ohio, and of the Rabbinical Association of Ohio. He was also president of the Central Conference of American Rabbis, and was founder of the Western Association of Jewish Ministers and honorary president in 1924. He was Lewissohn lecturer in 1918 on ethics of Judaism. An active student and author, his writings including: *Judaism and the Science of Religion* (1888); *Maimonides* (1890); *Responses, Psalms and Hymns*, (Detroit, 1895); *The Jewish Pulpit* (1895); *Biography of Isaac M. Wise, 1854-1900*, in *Collected Writings of Isaac M. Wise*, (Cincinnati, 1900); *Order of Service of Sabbath Schools* (1909); *The Real Life* (1914); *Glimpses into Life*, (New York, 1922); *Hanukkah Festival*; *The Aims of Teaching in Jewish Schools*; *Work for Teachers in Jewish Schools*; *Order of Service for the Day of the New Year and the Day of Atonement* (1918); *The Jewish Pulpit* (1919-21); and *Glimpses into Life* (1922). He contributed to *The American Jewish Pulpit*, published by the Central Conference of American Rabbis, and *Judaism and the Science of Comparative Religions*. In *Judaism and the World's Parliament of Religions*, Cincinnati, O., 1894.

**GUADELOUPE**, ga'dà-lôôp'. A French insular possession in the Lesser Antilles in the West Indies, consisting of two islands separated by a narrow channel, the one on the west being Guadeloupe proper or Basse-Terre, and the one on the east Grand-Terre. Combined area, 532 square miles; total area, including five small dependent islands, 688 square miles; population in 1922, 229,839. Basse-Terre is the capital, with a population of 8318; chief town, Pointe-à-Pitre, with 27,679 inhabitants. In 1924-25 there were 107 public and private elementary schools, with 139 teachers and 15,241 pupils in the public schools and 29 teachers and 650 pupils in the private schools. For higher education there is one *lycée* with 448 pupils. The chief products for export are: Cacao, coffee, sugar, and rum. For local consumption, bananas, sweet potatoes, maize, tobacco, manioc, and various vegetables are produced. In 1924 the imports were valued at 107,675,177 francs and the exports at 185,100,599 francs. The revenue and expenditure for 1925 balanced at 19,761,701 francs; the public debt on Dec. 1, 1924, was 812,622 francs. There is communication with France by means of two steamship companies, and there is a wireless station at Destrellan. At the head of the government are a governor and an elected council and the colony sends to the French parliament at Paris one senator and two deputies.

**GUAM**, gwâm. An insular possession of the United States, situated at the southern end of the Marianne or Mariana Islands, of which it is the largest and most populous, in the Pacific Ocean at a distance of about 1500 miles from Manila and 5053 from San Francisco. Area, about 225 square miles; population, exclusive of the military and naval establishments, 15,789 on June 30, 1925, of whom 15,246 were classed as natives. Capital, Agaña, with about 8500 inhabitants. In 1925, the school registration was

2813 pupils. Spanish and English are spoken in addition to the native Chamorro. The products of the island include cacao, coffee, copra, corn, rice, sugar, sweet potatoes and timber. The exports in 1925 amounted to \$109,178 and the imports to \$634,340. The island constitutes an American naval station, of which its governor, appointed by the President, is commander of the naval station and military governor of the island. He is virtually the entire government. Governor at the beginning of 1926, Capt. H. B. Price, U.S.N.

**GUATEMALA**, ga'te-milä. A republic of Central America lying between the Caribbean Sea and the Pacific Ocean and south and south-east of Mexico. Capital, Guatemala City.

**AREA AND POPULATION.** The area is estimated at 48,290 square miles, but the limits have been uncertain on account of boundary disputes and the area has been figured as low as 42,353 square miles; population, according to the census of 1920, 2,004,900; estimated in 1926, 2,454,000. The population of the chief cities at the last census was: Guatemala City, 99,009; Totonicapan, 30,888; Coban, 30,321; Chiquimula, 25,191; Escuintla, 20,574; and Quezaltenango, 20,565.

**EDUCATION.** In a message to the legislature early in 1926 the President stated that the number of primary schools open during 1925 was 2761, and that in addition there were 48 institutions of other types—professional schools, normal and secondary institutes and special schools. The total number of students enrolled was 103,314, and the average attendance, 77,838. During the year 973 students were supported by scholarships, seven of these being granted for study abroad. In concluding his message the President stated, "As indicating a new and wholesome trend in our educational methods, special reference should be made to the efforts already under way in order to vocationalize the primary schools. When this important change has been carried out, a decided advance, I trust and believe, will have been made toward the regeneration of Guatemala. The necessary steps are now being taken to provide the schools with plots of ground, and industrial studies and monographs of the departments are being made in order that in all places pupils may be taught the raising of crops and the industries peculiar to the region where they live and in order to develop such other new ones as can be introduced."

**PRODUCTION.** Agriculture is the chief occupation, and coffee is the staple crop. Other important crops are sugar, bananas, corn, beans, wheat, rice, tobacco and potatoes. Mahogany and dye woods are exported to the United States. Silver, gold, iron, lead and copper mines exist, but are of little commercial value because of inadequate means of transport.

**COMMERCE.** The year 1925 was one of general prosperity for Guatemala, resulting largely from an abundant yield of coffee which was disposed of at high prices. The value of the foreign trade movement exceeded that of the preceding year by \$9,000,000 and that of 1923 by \$23,000,000. There were no political disturbances and the national currency was stabilized throughout the year with the rate of exchange at 60 pesos for one dollar. The national prosperity was manifested in country-wide improvements, particularly in highways, public buildings, and parks. The general condition was reflected in the railway

and dock improvements, in the importation of luxuries, such as automobiles and fine woven fabrics, and in better highway transportation, such as motor buses and, in the city of Guatemala, in change from horse-drawn to motor-driven street cars.

Guatemala exported products to the value of \$29,654,000 in 1925 as compared with \$24,457,000 in 1924, and imported products to the value of \$18,557,000 as against \$14,548,000. The total foreign commerce, according to the national import and export statistics, amounted to \$48,221,000 compared with \$39,006,000 in 1924. Moreover the favorable trade balance was increased from \$9,900,000 in 1924 to \$11,100,000 in 1925. The most important advance in the value of exports was in coffee which increased from \$19,368,000 in 1924 to \$24,033,000 in 1925. Other increases were in chicle and lumber, while decreases were noted in sugar, hides, and bananas. Products supplied by the United States to Guatemala exceeded in value those supplied by all other countries combined. Although the percentage of the total imports dropped from 63 to 60 per cent in 1925, the increase in value was very satisfactory. The trade of Guatemala in 1925, by countries, is given in the accompanying table.

#### TRADE OF GUATEMALA, BY COUNTRIES, IN 1925

Country of origin or destination	Kilos	Value Total	Per cent of total
<i>Imports</i>			
United States . . .	83,395,096	\$11,158,011	60.0
Germany . . . . .	8,004,424	2,046,377	11.0
England " . . . .	7,607,986	2,234,663	13.8
France . . . . .	783,528	571,427	1.2
Spain . . . . .	488,944	184,171	.6
Netherlands . . .	480,829	147,784	.4
All other . . . . .	41,417,674	2,215,065	13.0
Total . . . . .	142,178,481	18,557,498	100.0
<i>Exports</i>			
United States . . .	178,234,868	14,726,829	49.7
Germany . . . . .	19,466,664	9,273,498	31.3
England " . . . .	2,002,566	564,922	1.9
Netherlands . . .	7,182,625	3,956,732	13.3
France . . . . .	306,081	90,306	.3
All other . . . . .	6,934,304	1,042,016	3.5
Total . . . . .	214,127,108	29,654,303	100.0

" Including British Honduras.

**FINANCE.** According to the report of the Secretary of the Treasury, taxes collected during the year 1925 reached the sum of 9,312,928 quetzales; this is 2,112,229 quetzales more than those of the previous year. A detailed account of receipts and expenditures is given in the accompanying table.

Receipts	Quetzales
Taxes . . . . .	9,312,928
Mails and telegraphs . . . . .	364,693
Consular fees . . . . .	345,024
National police . . . . .	51,866
Charity . . . . .	100,000
Total receipts . . . . .	10,174,511
Total expenditures . . . . .	9,719,859
Balance . . . . .	454,652
<i>Expenditures</i>	
Department of State and Justice . . . . .	1,648,469
Treasury Department . . . . .	1,120,465
Department of Promotion . . . . .	1,393,268
Department of Public Education . . . . .	1,033,011
War Department . . . . .	1,805,644
Agriculture Department . . . . .	855,507

Expenditures	Quetzales
Foreign Relations . . . . .	338,769
Police . . . . .	54,441
Charity . . . . .	120,074
Floating debt . . . . .	7,766
Caja Reguladora . . . . .	910,478
Miscellaneous . . . . .	431,967

**COMMUNICATIONS.** The latest figures for shipping are those for 1923 when 1,081,425 tons entered and 1,079,760 cleared. The International Railway of Central America controls a mileage of approximately 440 miles in Guatemala, exclusive of 55 miles of siding. In August, 1926, the Pan-American Union reported that a contract had been signed with the Guatemala and Salvador Railway Co., for the construction of a railroad branch from Santa María on the southern line to the Guatemalan-Salvadoran frontier, there to join the Salvadoran line being constructed from Santa Ana via Ahuachapán to the boundary with Guatemala, where a large bridge will be built across the Paz River. It was calculated that the work on the Guatemalan side should be completed in three years, thus giving another rail communication with Salvador on the southeastern border, in addition to the Zacapa route on the northeast.

**GOVERNMENT.** The executive power is vested in a president elected for six years and legislative power in a national assembly, consisting of representatives elected for four years, and a council of state, consisting of 13 members, part of whom are elected by the national assembly and part appointed by the president. President, at the beginning of 1926, Gen José María Orellana (q.v.) who died Sept. 26, 1926.

**HISTORY.** On December 3, 4, and 5 the presidential elections of Guatemala were carried out without any signs of disorder. The successful candidate was Lazaro Chacon, the Liberal candidate, who defeated his Progressive opponent, Gen. Jorge Ubico, by a large majority. Chacon had been acting as president since the death of President Orellana.

**GUGGENHEIM FOUNDATION.** See AERONAUTICS.

**GUPPY, HENRY BROUGHAM.** English botanist and geologist, died May 21. He was born at Falmouth, December, 1854, and was educated at King's School, Sherborne, Queen's College, Birmingham, St. Bartholomew's Hospital, London, and at Edinburgh University where he was made M.B. and C.M. in 1876. He entered the medical service of the Royal Navy in 1876, being surgeon of H.M.S. *Hornet* on the China and Japan station, 1877-80, and on H.M.S. *Lark*, a surveying schooner in the Western Pacific, 1881-84. Resigning from the navy in 1885 he investigated the coral-reef formation and the plant-dispersal in the Keeling Islands and West Java, 1887-88, and made botanical and geological exploration in the Hawaiian and Fijian Islands in 1896-1900. He also investigated the littoral flora of the Pacific side of South America from the Straits of Magellan to Panama, 1903-04, and carried on subsequently botanical work in the West Indies and the Azores. In 1917 he was selected as gold medallist of the Linnæan Society of which he became a fellow, and in 1918 was made a fellow of the Royal Society. His publications include two volumes on the Solomon Islands (1887); one volume on the Homes of Family Names (1890); two volumes on his observations in the Pacific in Hawaii and Fiji

(1903-06): one volume on Studies in Seeds and Fruits (1912): and one volume dealing with results obtained in the West Indies and Azores (1917).

**GUPTA, SIR KRISHNA GOVINDA.** An Indian official, died in Calcutta, India, March 26. He was born in Bhatpara, Dacca, India, Feb. 28, 1851, and was educated at the Mymensing Government School, at Dacca College, and at the Calcutta University. He was among the few early Indian native students in England to compete for the Indian Civil Service. After studying at London University College he was successful in the examination in 1873, and was sent to his native province as an official. He passed through all the grades of the Indian Civil Service of Bengal, as secretary of the Board of Revenue in 1887, Commissioner of Excise in 1893, and Divisional Commissioner in 1901. In 1904 he received one of the two memberships of the Provincial Board of Revenue, at that time the highest post to which an Indian had risen in the sphere of civil administration. In 1907 he was made a member of the India Council, being the first member of the Hindu race to share with Englishmen the responsibility of assisting the Secretary of State in the control of Indian policy. Sir Krishna Gupta retained his seat for the full statutory term of seven years, and acquired the confidence of his colleagues and the esteem of all associated with him. His appointment came as the result of his visit to Europe in connection with the development of the fisheries and his association at that time with Lord Morley, who took a liking to him. Gupta was a member of the eclectic school of deistic religious thought known as the Brahmo Samaj, and, with his wife, renounced caste restrictions and was keen for social reform. In 1911 Sir Krishna was made a Knight Commander of the Star of India, and after his retirement from the India Council in 1915 divided his time between India and Great Britain, where he was earnest in advancing Indian social and political conditions, though not participating in the recent advance movements which seemed to outstrip his sober judgment. In 1920 he was a member of Lord Esher's Army in India Committee. He was considered an able man of reasonable outlook, friendliness of disposition, and sincerity of purpose.

**GUYER, WILLIAM HARRIS.** American clergyman and president of Findlay College, Ohio, died at Findlay, O., July 22. He was born at Water-side, Bedford County, Pa., Sept. 2, 1870. He was for several years a teacher in the public schools and academies, and was ordained to the ministry of the Church of God in 1895. In 1898-1902 he was pastor in Beaver County, Pa., and from 1902-08 at Barkeyville. He was at Alverton 1908-12 and in charge of the College Church at Findlay, Ohio, after 1913, having become professor of theology in 1912. In 1914 he was elected president of the college. He was the author of: *Life of James Arminius*; *Our Mothers*; *Memories of Our Old Homes*; *Victors of the Faith*; and *Messages of Comfort*.

**GYMNASTICS.** The national Amateur Athletic Union Gymnastic championships of 1926 were held in the Sesquicentennial Stadium, Philadelphia, the individual winners in the several events being: horizontal bar, Alfred Jochim, Swiss Turn Verein; parallel bars, Alfred Jochim; side horse, Alfred Jochim; flying rings, Paul

W. Krempel, Los Angeles A. C.; rope climb, Manfred Krümer, Newark, A. C.; calisthenics, Paul W. Krempel; long horse, Adolph Zink, New York Turn Verein; Indian clubs, Ray Dutcher, New York A. C.; tumbling, David H. Sharpe, Los Angeles A. C.; all-around, Paul W. Krempel. The United States Naval Academy for the seventh consecutive year captured the United States intercollegiate championship.

**GYPSUM.** In 1925 according to the record of the U. S. Bureau of Mines, there were produced and sold in the United States, 5,675,000 short tons of crude gypsum, while crude and calcined products were sold with a total value of \$47,849,000. In the same year there were imported for consumption into the United States 634,423 short tons of crude gypsum valued at \$915,888; ground or calcined gypsum to the amount of 10,759 short tons valued at \$140,941; manufactured plaster of Paris valued at \$56,724; and 449 short tons of Keenes cement valued at \$11,294. This made a total value of all gypsum for the year of \$1,124,847. In 1925 the exports of gypsum aggregated 16,798 short tons valued at \$498,616.

**GYPSY MOTH.** See ENTOMOLOGY, ECONOMIC.

**HACKETT, FRANK WARREN.** American lawyer, author and assistant secretary of the navy, died at Portsmouth, N. H., August 10. He was born at Portsmouth, on April 11, 1841, and graduating from Harvard College in 1861, studied law at Portsmouth, N. H., Philadelphia, Pa., and at the Harvard Law School. In the Civil War he served as acting assistant paymaster from 1862-64, and was paymaster on the U.S.S. *Miami*, North Atlantic Squadron, being on board when that vessel was engaged with the Confederate ram *Albatross* at Plymouth, N. C. In 1866 he was admitted to the Massachusetts bar and began practice in Boston. In 1872 he served as private secretary to Caleb Cushing, the senior counsel for the United States in the Geneva Arbitration. From 1873-1920 he engaged in the practice of law at Washington, D. C., serving as assistant secretary of the navy, April, 1900-December, 1901, when he resigned. He was president of the New Hampshire Historical Society, 1912-13, and wrote reminiscences, biographies, and other works, including: *Memoir of William H. Y. Hackett* (1878); *The Geneva Award Acts, with notes and references to Decisions of the Court of Commissioners of Alabama Claims* (1882); *A Transcript of the First Thirty-five Pages of the Earliest Town Book, Portsmouth, New Hampshire, with notes* (1886); *A Sketch of the Life and Public Services of William Adams Richards* (1898); *The Gavel and the Mace* (1900); *Deck and Field* (1909); *Reminiscences of the Geneva Tribunal of Arbitration* (1872) of the *Alabama Claims* (1911).

**HACKETT, JAMES KETELTAS.** American actor, died in Paris, November 8. He was born at Wolfe Island, Ontario, Sept. 6, 1869, the son of James Henry and Clara Cynthia Morgan Hackett, the former one of the acknowledged leaders of the American stage, having created the rôle of Rip Van Winkle, though he was popularly known for his Falstaff. The son was graduated from the College of the City of New York in 1891, and then studied at the New York Law School, but having made a success in amateur theatricals, he went on the professional stage making his début with A. M. Palmer's

stock company in Philadelphia on Mar. 28, 1892, as François in *The Broken Seal*. In the autumn of the same year Haggard joined Daly's company, appearing in Shakespearean and other rôles, and in 1895 became leading man at the Lyceum Theatre, then under the management of Daniel Frohman. He was at that time the youngest leading man on the New York stage and here created such parts as Rudolph Rassendyl in *The Prisoner of Zenda*, and its sequel, *Rupert of Hentzau*. Later he acted in many plays such as *Romeo and Juliet*, and played the leading rôle in *The Pride of Jennico*. He also became a manager and actor-manager producing modern comedies and romantic plays, and in 1902 was associated with Harrison Grey Fiske, Mrs. Fiske and Henrietta Crosman in organizing the Independent Booking Agency to oppose the theatrical trust. He was lessee and manager of the Haggard Theatre in New York, and of theatres in Boston and Chicago.

In 1916 at the Criterion Theatre in New York Haggard produced Shakespeare's *Macbeth*, and during the War played in the all-star cast of *Out There* for the American Red Cross, netting for this organization \$700,000 in three weeks. At this time he also played the part of Old Bill in *The Better 'Ole*, and in 1919 he created the rôle of Silas Lapham in *The Rise of Silas Lapham* which was produced at the Garrick Theatre in New York. In 1920 he took his *Macbeth* production to London giving a series of performances at the Aldwych Theatre with an English company, and accepted an invitation of the French Government to give this play in Paris in a state-subsidized theatre in which English actors were invited to participate. He was decorated by the French Government with the cross of the Legion of Honor. He appeared in *Othello* in Paris and London and was the guest of honor in the same play, when produced at Stratford-on-Avon in 1922. He was at various times the guest of the King and Queen of England at Buckingham Palace, and in the tercentenary celebration in honor of Molière he appeared as Shakespeare in the Grand Opera House at Paris, representing Shakespeare and his works. At this time he was decorated by the Authors and Composers of France in recognition of his "profound mastery of his great art." In January, 1924, he returned to New York City and was tendered a public reception at the City Hall and granted the freedom of the city. In this year he produced *Macbeth*, playing the title rôle with Clare Ames as Lady Macbeth.

**HAGGARD, SIR WILLIAM HENRY DOVETON**, K.C.M.G. British diplomat, died at Mentone, France, January 23. He was born in Norfolk, June 25, 1846, and was educated at Tonbridge School, at Winchester, and at Magdalen College, Oxford. In 1869, he entered the British diplomatic service, and his first important position was as Secretary of Legation at Rio de Janeiro in 1885. After serving in a similar capacity at Athens in 1887, he became Minister Resident at Quito in 1890, Consul-General at Tunis in 1894, and Minister Resident at Caracas in 1897-1902. He was made Ambassador to Argentina in 1902, and in 1906 was appointed Ambassador to Brazil, serving until Jan. 1, 1914, when he retired on a pension. In 1903 he was made a Companion of the Bath, and in 1908 a Knight Commander of St. Michael and St. George. In

addition to his own work he was also known as brother of the late Sir Rider Haggard, novelist and sociologist, and of Maj. A. C. P. Haggard, the writer on sport, fiction, and French history. He prepared in coöperation with Guy Le Strange an edition of *The Vazir of Lenkuran*, a standard book for the study of modern Persian. He was a fellow of the Royal Geographical and Royal Asiatic Societies.

**HAITI**, hä'té. A West Indian republic comprising the western part of the island of Haiti or Santo Domingo, the other part comprising the Dominican Republic (q.v.). Capital, Port-au-Prince.

**AREA AND POPULATION.** The area has been variously estimated at from 10,204 to 11,072 square miles; population, estimated, Jan. 1, 1924, 2,028,000, excluding 3000 foreign white residents and the military and naval forces of the United States stationed there in conformance with the treaty of 1915. The majority of the inhabitants are negroes, but there is a large number of mulattoes, who are descended from the former French settlers. The language is a dialect of French known as Creole French. The capital, Port-au-Prince, has a population of approximately 125,000; Cape Haïtien, about 20,000; Cayes, 15,000; Gonaïves, 7500; and Port-des-Paix, 7500.

**EDUCATION.** Public education is free and has been compulsory since 1910. In 1925 there were 932 schools of all types with an enrollment of 75,278. The rural schools have been much improved in recent years. At the suggestion of the Chamber of Commerce of Haiti, a school of commerce has been established. Secondary education is provided by national *lycées* and by private schools. The University of Haiti was established in 1921.

**PRODUCTION.** Agriculture is the principal occupation and the chief product is coffee. Cacao, tobacco, and cotton are also extensively cultivated, the last being exported in considerable quantities. Other products include sugar, rum and other spirits, logwood and other valuable timber. Mineral resources are considerable although undeveloped. They include copper, coal, and iron, for the working of which some concessions have been granted; also gold, silver, antimony, tin, sulphur, kaolin, limestone, porphyry, nickel, and gypsum. The manufactures are practically negligible.

**COMMERCE.** The total foreign commerce during 1924-25 reached the value of 198,207,000 gourdes, an increase of 53,844,000 over the 144,362,000 gourdes at which the commerce of 1923-24 was valued. This increase amounted to 37.30 per cent. The nearly 200,000,000 gourdes of foreign trade was exceeded only in the years 1918-19 and 1919-20, both of which were entirely abnormal. Imports were 101,188,000 gourdes, as compared with 73,481,000 gourdes in the preceding year, an increase of 27,707,000 gourdes, or 37.72 per cent. Exports were 97,019,000 gourdes, as compared with 70,882,000 gourdes, an increase of 26,237,000 gourdes, or 37.02 per cent. Thus the expansion of imports and exports was almost identical. Exports from Haiti to the United States in 1925 were almost \$1,000,000 greater than in 1924, the increase amounting to 76 per cent. In 1925 imports to Haiti from the United States increased more than \$2,000,000 over the figures of the previous year, a gain of 19 per cent. The accompanying

table shows the value of exports in dollars for 1924 and 1925, according to the ports of Haiti:

EXPORTS, BY PORTS, FISCAL YEARS ENDING  
SEPTEMBER 30

Ports	1924	1925
Port au Prince .....	\$3,492,815	\$4,211,158
Petit Goave .....	1,590,125	2,611,876
Jacmel .....	1,685,291	2,497,474
Cape Haitien .....	1,390,658	2,852,942
Aux Cayes .....	1,449,867	1,836,571
Gonaives .....	1,289,740	1,765,011
St. Marc .....	1,359,195	1,649,557
Port de Paix .....	805,333	951,339
Jeremie .....	460,701	703,163
Miragoane .....	342,923	494,292
Aquin .....	303,322	326,691
Other ports .....	6,352	3,688
Total ..	14,176,322	19,403,762

FINANCE. The accompanying table gives government receipts and expenditures for the fiscal years 1923-24 and 1924-25. The fiscal year is from October 1 to September 30.

Receipts	1924-25 Gourdes	1923-24 Gourdes
Customhouses .....	35,750,018.34	29,950,907.14
Internal taxes .....	4,089,926.19	2,795,870.53
Miscellaneous .....	647,722.47	155,543.66
Total fiscal receipts ..	40,487,667.00	32,902,321.33
Expenditures	1924-25 Gourdes	1923-24 Gourdes
Receiver general .....	1,849,537.49	1,118,917.28
General administration of taxes .....	342,928.16	73,478.88
Public debt .....	11,614,549.45	9,462,098.47
Guarantee on debt interest ..	626,388.20	1,516,174.95
Gendarmerie .....	5,579,242.54	5,322,449.22
Foreign relations .....	619,953.31	734,199.47
Treasury .....	1,197,945.96	1,520,366.84
Commerce .....	230,051.46	
Interior .....	1,208,067.76	1,363,403.06
Hygiene .....	2,223,059.14	1,529,057.91
Public works .....	703,416.57	961,336.20
General administration of public works .....	7,533,943.51	5,895,159.05
Justice .....	1,338,838.31	1,372,533.28
Agriculture .....	44,258.88	148,288.24
Agricultural technical service ..	1,526,891.70	434,445.89
Technical service of pro- fessional instruction ..	274,393.63	
Public instruction .....	1,942,599.20	2,306,194.25
Church .....	367,136.75	457,393.00
Total .....	39,218,202.02	34,215,495.94

Pronounced changes occurred in the position of the public debt during the month of October, 1925. Practically all ordinary amortization purchases on series A and series C bonds had been completed, and considerable purchases were also made on series B bonds. Thus the outstanding series A bonds declined from 75,183,000 gourdes to 73,921,000 gourdes, series B from 21,747,000 gourdes to 21,078,000, and series C from 12,640,000 to 12,453,000. The gross debt therefore, declined from 115,231,000 gourdes to 113,112,000 gourdes, and constitutes the lowest point reached in the public debt since the present method of presentation was adopted.

COMMUNICATIONS. In 1926 the total length of railways in Haiti was 258.2 kilometers, operated by two companies. The traffic was comparatively small.

GOVERNMENT. Executive power is vested in a president elected for four years, who acts through a ministry of five. The constitution as adopted by the people on June 12, 1918, provides for a National Assembly to consist of a

Senate and House of Representatives. This body has never been elected. Instead the legislative functions are carried out by the Council of State, consisting of 21 members apportioned among the different departments, who were supposed to act until the president fixed a date for the election of the assembly. As he has never done so this body still functioned at the end of 1926. The President in 1926 was Louis Borno, who was elected Apr. 10, 1922.

HISTORY. According to the report of Brig.-Gen. John H. Russell, American High Commissioner in Haiti, the republic continued to make progress along economic and industrial lines. At the end of the fiscal year a cash balance of \$1,273,568 remained. In commenting upon the relations between the Haitian government and the press of the country, General Russell said that they "showed no improvement over those existing in the preceding year, with no decrease in the attacks indulged in by certain of the local newspapers against the Haitian Government and the American officials. These newspapers are such in name only. They carry little or no news and devote their columns to petty criticisms of governmental acts, usually accompanied by some ill-meant but futile attack."

On April 12, Louis Borno was elected for a second four-year term as President of Haiti by the Council of State which he himself appointed. This council contains 21 members and the vote was announced as unanimous despite the fact that one member was absent and another refrained from voting. Needless to say the newspapers referred to above bitterly attacked this election as unconstitutional, and claimed that he had acted contrary to the constitution in many cases, but each time with the aid and support of the American treaty officials. In commenting on his election President Borno said, "My reelection guarantees four more years of close cooperation between the Haitian and American governments, and a continuation of the harmonious relations which have so effectively contributed to the present prosperity of the country." During the summer he made a month's tour of the United States and in one of his speeches asserted that "the great mass of the people of Haiti are grateful to the United States for the improved conditions in their country. Only a handful of malcontents now oppose the present régime of peace. They are composed entirely of discredited military leaders and their lieutenants."

HAMILTON COLLEGE. A non-sectarian institution of higher education at Clinton, N. Y.; founded in 1812. A total of 449 students were registered for the 1926 fall session, divided as follows: seniors, 81; juniors, 85; sophomores, 115; freshmen, 168. There were 36 members on the faculty for the year 1926-27. During 1925-26, the exterior of Knox Hall was restored to its original appearance, and the interior adapted for housing the administrative offices of the college. The name was changed to Buttrick Hall in memory of the original occupants, who were the grandparents of Senator Elihu Root, Chairman of the Board of Trustees of the college. The productive funds of the institution were approximately \$3,511,900, and the income for the year 1925-26 was \$310,490. The library contained 114,989 volumes and 28,500 pamphlets. President, Frederick C. Ferry, Ph.D., Sc.D., LL.D.

**HAMLIN, ALFRED DWIGHT FOSTER.** An American architect, and head of the School of Architecture at Columbia University, died in New York, March 21. He was born at Constantinople, Turkey, Sept. 5, 1855, the son of Dr. Cyrus Hamlin, a Congregational missionary and educator, and after studying at private schools and at Robert College, Constantinople, graduated at Amherst in 1875. He studied architecture at the Massachusetts Institute of Technology, 1876-77, and at the École des Beaux Arts, Paris, 1878-81. In 1883 he came to Columbia University as special assistant in the School of Architecture under Prof. William R. Ware, and in 1889 became assistant professor of architecture, and in 1904 professor of the history of architecture, serving in this chair until his death. Professor Hamlin was a fellow of the American Institute of Architects, and a member of the Archaeological Institute of America. He was active as a public spirited citizen in various movements for civic improvements, and also in the efforts for betterment in the Near East, especially in Armenia and Greece. He was active not only as a teacher, but as an author on the history of architecture, and contributed articles on architecture to the first and second editions of THE NEW INTERNATIONAL ENCYCLOPEDIA, and to earlier volumes in this series of YEAR BOOKS. His professional and educational work was recognized by the degree of M.A. from Amherst in 1885, and that of LL.D. from St. John's College in 1912. He was also decorated with the Cross of the Order of George I of Greece for his interest in archaeological studies in that country. In addition to frequent contributions to archaeological periodicals, dictionaries and encyclopedias he was the author of: *A History of Architecture* (1896); *European and Japanese Gardens* (in collaboration) (1902); *History of Ornament, Ancient and Medieval* (1916); and *History of Ornament, Renaissance and Modern* (1923).

**HAMPTON NORMAL AND AGRICULTURAL INSTITUTE.** An institution founded in 1868 at Hampton, Va., for the education of negroes and Indians. Enrollment for the year 1926-27, exclusive of training and summer schools, was 1006, of whom 964 were boarding students, and the faculty numbered 120. The enrollment for the two summer sessions of 1926 was 1188. The productive funds of the Institute amounted on June 30, 1926, to \$7,958,763.73, and the income was \$399,733.77. There were 60,532 volumes in the library. Principal, James Edgar Gregg, D.D.

**HANDBALL.** This sport experienced a pronounced gain in popularity during 1926. Maynard Laswell of the Los Angeles Athletic Club retained his singles title in the national Amateur Athletic Union tournament held at St. Paul, Minn., defeating Jack Donovan in the final round by 21-18, 21-17. The doubles championship was won by Donovan and Lane McMillan who triumphed over Herman Dworman and William Kammann, 21-17, 21-14. Eddie Butler of the Crescent Athletic Club captured the one-wall singles title while the doubles honors went to Walter Schwartz and John Seaman of the Trinity Club. Tyge Tholfsen won the four-wall hard ball championship.

**HANFORD, CHARLES BARNUM.** American actor, died at Washington, D. C., October 17. He was born at Sutter Creek, Amador County,

Calif., May 5, 1859. After graduating from the Washington D. C. High School, 1881, he studied in the collegiate and law departments of Columbian University. He relinquished the practice of law for employment in the U. S. Pension Office and was private secretary to Congressman H. F. Page of California. In 1882 he began his first season's work as an actor in New London, Conn., playing with William Stafford in Shakespearean plays. From 1883-85 he was with Thomas W. Keene, and from 1885-86 with Robson and Crane as Egeon in *The Comedy of Errors*. In 1885 he joined Edwin Booth's company and from that time was identified with Shakespearean productions, playing Marc Antony to Booth's Brutus and Barrett's Cassius from 1887-89. He was also with Booth, Modjeska and Julia Marlowe. In 1892 he went on his first starring tour, playing Marc Antony in *Julius Caesar*, and acting in *Ingomar*. In 1896-98 Hanford was sub-star and manager with Thomas W. Keene, and joint star with Louis James and Kathryn Kidder in the James, Kidder and Hanford company. In 1889-1900 he starred with his own company, and in 1910-11 was engaged for the part of Appius in Maeterlinck's *Mary Magdalene* in the New Theatre, New York City, and with Miss Olga Nethersole.

He was on lecture tours with Captain Scott of the South Pole Expedition, and acted in moving pictures in 1913-14-15. He was engaged by James K. Hackett for the part of King Duncan in his famous production of *Macbeth* in 1915-16. In the following season he was joint star with John E. Kellard in Shakespearean plays. During the World War he enlisted as chief yeoman, U.S.N.R.F. and was assigned to the office of Naval Intelligence being detailed to duty with Thomas A. Edison. Later he was an editorial writer in the historical section of the U. S. Navy.

**HARBORS.** See PORTS AND HARBORS.

**HARRIS, JOHN ROYALL.** American clergyman and educator, president of Cumberland University, died at Lebanon, Tenn., September 12. He was born near Murfreesboro, Tenn., Mar. 7, 1869, and was educated at the Clark-Bledsoe School, Winchester, Tenn., and later studied theology at Cumberland University receiving the degree of B.D. in 1894, in which year he was ordained to the Presbyterian ministry. His first pastorate was at Lewisburg, Tenn., which he held from 1894-1903, when he went to Pittsburgh, Pa. as pastor of the Shady Avenue Church. In 1917 he became superintendent of the Dry Federation of Pa., and was director of the industrial department of the National Reform Association, and founder of its southern headquarters at Nashville, Tenn., in 1920. He had been president of Cumberland University since June 7, 1922. He was active as a temperance worker and as superintendent of the Tennessee Anti-Saloon League, 1900-03, and a member of the Board of Temperance of the Presbyterian Church. He also was interested in the National Guard, serving as private and as color sergeant in the Pennsylvania National Guard. He was chaplain general of the Department of the Gulf of the Society of Confederate Veterans.

**HARRIS, ADMIRAL SIR ROBERT HASTINGS,** K.C.M.G. British naval officer, died at Yelverton near Plymouth, England, August 25. He was born Oct. 12, 1843, the son of Capt. Robert



Harris, R.N., and at ten years of age was sent to the Royal Naval School at New Cross where he studied for two years. Instead of serving on the *Victory* as a naval cadet, for which he had received the nomination, he was on the *Illustrious* training ship for young seamen then commanded by his father. He served on the 70-gun sailing ship *Cumberland*, and on the 91-gun screw ship *Cæsar*, and also on the 51-gun frigate *Euryalus* where he was a shipmate with Prince Alfred, later Duke of Edinburgh. He was promoted to lieutenant in 1863, captain in 1879, and rear-admiral on Jan. 1, 1895, in which rank he hoisted his flag as second in command of the Mediterranean Fleet in May, 1896. He represented Great Britain on the Council of Admirals in the pacification of Crete, and participated in the conferences which extended from February, 1897 to February, 1898. For his services in this work he was awarded the K.C.M.G. Appointed to command the Cape of Good Hope and West Africa Station, he hoisted his flag on the *Doris* in 1898, and at the time of the Boer War was ordered to devote his chief attention to the protection of the seaport towns of Cape Colony and Natal. While Admiral Harris held that it was undesirable to weaken his ships to land men and guns to assist the British land forces, in response to the request from the general at Cape Town, he dispatched the naval field guns with their seamen crews and 100 marines as escort to Stormberg. His action was approved by the Admiralty, and after this at various times numerous naval guns and seamen were sent to the front. After Paardeberg, Admiral Harris had charge of General Cronje, who was placed on a warship for safe custody until he was removed to St. Helena. In October, 1900, Admiral Harris received the K.C.B. for recognition of his services during the Boer War and was promoted to vice-admiral. In October, 1903, after two years spent on half pay, he was made president of the Royal Naval College at Greenwich where he served for three years, being promoted to full admiral in the meantime. On Oct. 12, 1908 he was retired on reaching the age limit. He was the author of an interesting volume of memoirs entitled: *From Naval Cadet to Admiral* (1913).

**HARRISON, FREDERICK.** British actor and manager, died at London, June 13. He was the son of Frederick Burgoyne Harrison and Ellen Maria Norton, and was educated at King's College School; and Trinity College, Cambridge. He became a private tutor and lecturer, traveling extensively for several years, and in 1886 went on the stage, becoming in the following year a member of Sir Herbert Tree's company when that actor-manager opened the Haymarket Theatre in 1887. He was joint manager of the Lyceum with Forbes-Robertson from 1895-96, and after the latter year became sole lessee of the Haymarket Theatre. From 1896-1905 he was joint manager of the Haymarket Theatre with Cyril Maude, a partnership which lasted until Mr. Maude migrated to the Playhouse in 1905. He was not only one of the most distinguished theatrical managers, but also one of the most successful in London, and the Haymarket Theatre, under his control, was well appointed and admirably conducted, the presentations being marked by taste and art.

**HART, WILLIAM H.** American soldier, quartermaster general, United States Army, died

January 2. He was born at Winona, Minn., Mar. 20, 1864, and graduating from the United States Military Academy in 1888, he was commissioned second lieutenant of the Twentieth Infantry. He was promoted through successive grades to colonel of the Quartermaster Corps, May 2, 1917, and was made quartermaster general, Aug. 28, 1922. He served with the Seventh Cavalry in Arizona, and in Cuba, and was depot commissary at Manila, P. I., 1901-02. From 1903-09 he was assistant commissary general at Washington, D. C., and in 1909-11 he was depot commissioner at Honolulu. He served at San Francisco in 1911-16, being superintendent of the Army Transport Service from 1913-16. In the World War he was base quartermaster at Base Section 1, St. Nazaire, France, and at New York he was depot quartermaster from 1920-22. He was awarded the Distinguished Service Medal of the United States government, and was made an Officer of the Legion of Honor by France.

**HARVARD UNIVERSITY.** A non-sectarian institution of higher education at Cambridge, Mass.; founded in 1636. The number of students enrolled for the year 1926-27 was 7993, distributed as follows: college, 3278, divided into seniors, 597; juniors, 740; sophomores, 894, freshmen, 950, special students, 97; graduate school of arts and sciences, 896; engineering, 265; theological, 98; law, 1440; medical, 500; dental, 150, school of public health, 36; graduate school of business administration, 727; school of architecture, 74; landscape architecture, 42; graduate school of education, 399; special students, 61; Bussey Institution, 21. For the summer school of 1926, 2470 students were enrolled. The officers of instruction numbered 1171, of whom 197 were professors, 39 associate professors, and 98 assistant professors. The total productive funds of the University in June, 1926, were \$76,022,426.62, and the total income for the year, including gifts for immediate expenditure, was \$9,484,492.02. The number of books and pamphlets in the library was 2,497,200. This included the 81,459 additions made during the year. Two dormitories were completed; one in the Yard, the gift of Jesse Isidor, Percy Selden, and Herbert Nathan Straus, in memory of their father, Isidor Straus, and the other McKinlock Hall, a freshman dormitory on the bank of the Charles River, given by Mr. and Mrs. George Alexander McKinlock in memory of their son, George Alexander McKinlock, Jr., of the Class of 1916, killed in action in France. The new Fogg Art Museum, facing Sever Hall, was nearing completion, and the dormitories of the School of Business Administration, the gift of George F. Baker, were occupied at the opening of the academic year. The footbridge across the Charles River, to supply a convenient access to the business school, was also under construction. Plans for the projected chemical laboratories were almost completed, and work on a Medical School dormitory was begun. The University created the office of Director of Athletics, to be a member of the faculty, and selected William J. Bingham to fill it.

In 1925-26 Prof. Étienne Gilson of the University of Paris lectured as Exchange Professor in Philosophy from France, and Albert Bushnell Hart, Professor Emeritus, was sent to France during the second half year as Exchange Professor. During the second half year, also, Prof.



Robert DeC. Wart and Professor Ralph B. Perry went as Exchange Professors to Western colleges (Beloit, Knox, Colorado, Carleton, Grinnell and Pomona). The following were visiting lecturers at Harvard during the year: Prof. John D. Black, economics, from the University of Minnesota; Prof. Edward S. Robinson, psychology, from the University of Chicago; Prof. Charles K. Webster, history, from the University of Wales; Prof. Michel C. Diehl, fine arts and history, from the University of Paris; Prof. Robert S. Conway, Greek and Latin, from Victoria University, Manchester, Eng.; Edward E. Sikes, Greek and Latin, President St. John's College, Cambridge.

**HAUPT, PAUL.** Semitic scholar, one of the pioneers of Assyriology in America, died December 15, Baltimore, Md. He was born at Görlitz, Germany, Nov. 25, 1858, received the degree of Doctor of Philosophy at the University of Leipzig in 1878, and carried on post-graduate work at the Universities of Leipzig and Berlin. In 1880 he became privatdozent in the University of Göttingen and from 1883 to 1889 was assistant professor of Assyriology. In 1883 he came to the United States and became Spence professor of Semitic languages and director of the Oriental Seminary at Johns Hopkins University, but continued until 1889 to lecture in the summer at Göttingen. He also was associated with the United States National Museum, being honorary curator of Oriental antiquities, 1888-98, honorary curator of the division of historic archaeology, 1898-1905, and associate in historic archaeology since 1905. The honorary degree of Doctor of Laws was conferred on Dr. Haupt by the University of Glasgow in 1902, and he was honorary associate of the Society of Oriental Research, and a Knight of the Royal Prussian Order of the Red Eagle. He was American member of the International Commission on Oriental Congresses; first United States delegate to the International Congress of Orientalists at Rome in 1899, at Algiers, in 1905, at Copenhagen in 1908, at Athens in 1912; first United States delegate to the International Congress on the History of Religions at Paris, Basel, and Oxford; and United States delegate to the International Congress of Americanists. He wrote more than 400 papers on Biblical and Assyrian philology, history and archaeology, comparative Semitic grammar, Sumerian, etc., in addition to being projector and editor of the *Polychrome Bible*, a critical and annotated edition of the Hebrew text of the Old Testament with a new English translation. A unique feature of this edition was the use of different colors to distinguish the various sources and component parts in the Old Testament books.

**HAVERFORD COLLEGE.** An institution of higher education under the control of the Society of Friends, at Haverford, Pa.; founded in 1833. Registration for the fall term of 1926

totalled 252 students, distributed as follows: graduates, 4; exchange students, 1; seniors, 39; juniors, 56; sophomores, 74; freshmen, 78. There were 30 members on the faculty. The par value of the productive funds amounted to \$4,025,-653.72, and the total income for 1925-26 was \$1,107,728.06. The library contained 101,500 volumes. President, William Wistar Comfort, Ph.D., Litt.D., J.L.D.

**HAWAII.** A territory of the United States, consisting of a group of islands in the north central Pacific Ocean; formally annexed, Aug. 12, 1898. The nine inhabited islands with their respective areas in square miles are as follows: Hawaii, 4015; Maui, 728; Oahu, 598; Kauai, 547; Molokai, 261; Lanai, 139; Niihau, 97; Kahoolawe, 69; Midway, 2.7. Capital, Honolulu, on the island of Oahu. The population according to the census of 1920 was 255,912 as compared with 191,909 in 1910. The population of the territory was estimated by the board of health to be 328,444 on June 30, 1926; of this number 210,562 were American citizens. The total number of steerage arrivals during the year ending June 30, 1926, was 7925 as against 13,954 for the prior year, divided as follows: Chinese, 336; Japanese, 2150; Filipinos, 5053; Koreans, 12; Porto Ricans, 1; Portuguese, 61; all others, 312. The departures aggregated 11,603 as against 8408 for the previous year. The general death rate was the lowest in the history of the territory, the death rate for the year being 12.44 per 1000 as against 12.74 for the previous year. The number of deaths of infants under one year of age showed a decrease of 64 for the year, there being 1294 deaths, or a rate of 104.21 per 1000 births. The races showing the highest and lowest infant mortality were respectively, the Filipino, 237.19 and Korean, 42.73. There were 12,417 births reported during the year, a decrease of 692 from 1925. The birth rate was 38.08 per 1000 population and the increase of births over deaths of 206.14.

**EDUCATION.** Education is compulsory from the ages of 6 to 14, the maximum having been lower in 1923. During the year there were maintained 182 public schools, with 1977 teachers, and 58,860 pupils, as against 1719 teachers and 55,044 pupils in 1925. There were 63 private schools, with 400 teachers and 9651 pupils, as against 462 teachers and 9872 pupils in 1925, making a grand total for the year of 245 schools, 2377 teachers, and 68,511 pupils.

**COMMERCE.** The accompanying tables from the report of the governor of Hawaii for the fiscal year ended June 30, 1926, give the main statistics concerning commerce. The chief exports are sugar and pineapples. The sugar crop in 1926 was placed at 787,000 tons, more than 11,000 tons larger than that of 1925. An interesting record is that of the constantly increasing acre production—6.39 tons in 1926 compared with 4.47 tons in 1906.

#### HAWAII, IMPORTS AND EXPORTS, 1920-25

Years *	United States	Imports Foreign countries	Total	United States	Exports Foreign countries	Total	Total imports and exports
1920.....	53,669,174	9,614,473	63,283,647	101,194,733	3,585,071	104,779,804	168,063,451
1921.....	77,739,381	12,561,879	90,301,260	177,173,234	3,547,008	180,720,242	271,021,502
1922.....	56,223,067	7,819,673	64,042,740	71,615,805	1,132,438	72,748,243	136,790,983
1923.....	56,887,991	8,038,823	64,876,814	81,495,984	1,272,833	82,768,817	147,645,131
1924.....	69,678,434	8,986,778	78,665,312	109,138,065	1,588,411	110,726,476	189,391,788
1925.....	72,952,949	10,887,749	83,840,698	102,780,509	1,844,782	104,625,291	188,465,989
Total....	542,431,697	85,580,822	628,012,019	944,128,582	20,823,253	964,951,835	1,592,963,854

\* For 1920 to 1924, inclusive, fiscal years ending Mar. 31; and for 1925, calendar year.

During the last year the shipments of gold and silver coin other than through the mails were, to the United States, \$5000, and from the United States, \$91,000.

amounted to 96,361,000 tons produced on 72,346,000 acres, the rate of production per acre being 1.33 tons.

The average farm price Dec. 1, 1926, was

DOMESTIC EXPORTS BY ARTICLES, FISCAL YEAR ENDED MAR. 31, 1925, AND CALENDAR YEAR 1925

Articles	United States, mainland, calendar year 1925		Foreign, calendar year 1925	
	Quantity Pounds	Value	Quantity Pounds	Value
Sugar	1,510,317,072	\$63,300,491	600	\$38
Coffee	3,590,104	980,012	1,512,824	400,626
Fruits and nuts *		33,866,834		821,591
Sugar-mill machinery			1,665,972	344,474
Rice	114,196	7,828	5,700	457
Hides	1,462,550	162,990		
United States goods returned		3,002,462		
Other		1,429,891		271,269
Total		102,750,508		1,838,455

Articles	Total, calendar year 1925		Total, fiscal year Mar. 31, 1925	
	Quantity Pounds	Value	Quantity Pounds	Value
Sugar	1,510,317,672	\$63,300,529	1,353,120,785	\$71,468,150
Coffee	5,102,928	1,380,638	4,619,634	1,197,535
Fruits and nuts *		34,688,425		27,943,493
Sugar-mill machinery	1,065,972	344,474		
Rice	119,896	8,285	416,175	25,941
Hides	1,462,550	162,990	2,117,360	189,902
United States goods returned		3,002,462		
Other		1,701,160		4,679,271
Total		104,588,963		105,504,292

\* Mostly pineapples.

**FINANCES.** The income of the various counties aggregated \$8,875,744.01, as against \$8,814,282.42 for the previous year. The assessment of property, real and personal, aggregated \$392,782,143, as against \$360,832,895 for the prior year. The total income of the territory was \$9,814,387.80; and the total current expenses and fixed charges amounted to \$7,849,120.77, or an excess of income over operating expenses of \$1,965,267.03. The total capital outlay was \$2,152,196.74; the excess of income over expenditures for the fiscal year being \$186,929.71. The total bonded indebtedness on June 30, 1926, was \$22,070,000 as compared with \$17,990,000 on June 30, 1925. Bank deposits at the end of the year amounted to \$67,851,393.05.

**COMMUNICATIONS.** There are steam railways on all islands operating on regular schedules and most of them carrying passengers. In addition plantations have their private railway equipment for transporting cane and laborers. The total mileage in 1925, 371.55, mostly narrow gauge. Regular steamship communication is maintained with the mainland by the Matson Steamship Company, operating between San Francisco and Hawaii; by the Alaska Steamship Company, connecting with Seattle; by the Isthmian Steamship Lines, with headquarters in New York; by the Los Angeles Steamship Company, operating between Los Angeles and Hawaii; and other companies. During 1925-26, 1052 vessels of 8,070,185 tons entered and cleared.

**GOVERNMENT.** The territorial elections are held regularly in November of each even year, to elect the delegate to Congress for two years, one-half of the Hawaiian Senate for four years, and all the members of the Hawaiian House of Representatives for two years. The sessions of the legislature are held biennially in odd-numbered years. Governor during 1926, Wallace R. Farrington.

**HAY.** The hay crop of the United States in 1926, according to estimates published by the Department of Agriculture Dec. 20, 1926,

\$13.67 per ton, and at this rate the crop represented a total value of \$1,317,191,000. In 1925 the production was greater by 2,080,000 tons, the area by 445,000 acres, and the total value smaller by \$13,573,000. Of the total production in 1926, 86,377,000 tons was tame hay and 9,984,000 tons wild hay. The area producing the wild hay comprised 13,506,000 acres as compared with 58,840,000 acres producing the tame hay. The average yield of the wild hay was only .74 of a ton per acre while the tame hay yielded at the rate of 1.47 tons per acre. The leading States in tame hay production and their yields in 1926 were as follows: New York, 6,393,000 tons, Wisconsin 5,742,000 tons, California 4,984,000 tons, Michigan 4,097,000 tons, Ohio 4,007,000 tons and Iowa 3,845,000 tons. Nebraska led in wild hay production with 1,895,000 tons, followed by Minnesota with 1,492,000 tons, South Dakota with 926,000 tons and North Dakota with 818,000 tons. Wild hay, either marsh, salt or prairie hay, was produced in all the States but in some the production amounted to only a few thousand tons.

The tame hay crop of 1926 comprised 26,496,000 tons of alfalfa (see ALFALFA), 10,273,000 tons of timothy hay, 10,185,000 tons of clover hay, 20,511,000 tons of mixed clover and timothy hay, 3,796,000 tons of annual legume hay (soy beans, cowpeas, etc.), 9,174,000 tons of millet, sudan grass, and other miscellaneous hay and 4,942,000 tons of hay from grains cut green. Of the timothy hay 1,497,000 tons were produced in New York, 1,286,000 tons in Ohio and 1,139,000 tons in Pennsylvania, these three States producing over one third of the total crop of the country. In clover hay production Wisconsin stood first with 1,472,000 tons, followed by Michigan and Missouri each with 777,000 tons and Iowa with 731,000 tons. Over 20 per cent of the total hay crop of 1926 was mixed clover and timothy hay and more than half of this quantity was produced in the States of New York, Wisconsin, Pennsylvania, Michi-

gan, Iowa and Ohio, mentioned in decreasing order of production. The larger crops of annual legume hay were produced in Illinois, Tennessee, North Carolina, Virginia and Alabama, given in decreasing order of importance. Millet, sudan grass and other miscellaneous hay was extensively grown in Texas, New York, Illinois, Kentucky, Tennessee and Maine, while grains were cut green for hay to the largest extent in the Pacific Coast States, North Dakota, South Dakota and Montana. The United States Army uses between 7000 and 8000 cars of hay annually and is one of the largest buyers of hay in the country. The Army purchases all its hay on the basis of the official hay standards. At the close of the year seventeen important hay producing or consuming States had adopted United States hay standards as the official State standards.

**HAYAMI, SEIJI.** Finance Minister for Japan, and member of Parliament, died September 13 at Kamakura. He was born in 1868 in Hiroshima-ken, and after graduating at Waseda University in 1887 became chief instructor of the Saitama English School for two years. He then entered the Hakubunkan Publishing House, and later started a daily newspaper at Hiroshima. Elected to Parliament in 1915, he became Parliamentary Secretary of the Navy, and in December of the same year, Vice-President of the House. In 1924 he was Parliamentary Vice-Minister of Railways, and in the following year he became Minister of Agriculture and Forestry. In June, 1926, with the formation of a new ministry (see Japan) he became Finance Minister succeeding Yuko Hamaguchi. His health, however, failed and for some weeks previous to Hayami's death Premier Reijio Wakatsuke temporarily exercised the function of Finance Minister.

**HEART DISEASE.** By reason of the enormous toll of death from chronic heart disease and from the steady increase in such deaths it has become realized that a special campaign should be conducted with the object of detecting these affections in their incipency. By the time the average patient comes to the physician his heart lesion is in a relatively advanced stage and an arrest is out of the question. What have usually been regarded as relatively early symptoms, because the compensation of the organ is still maintained and may not give way for some years, are best looked upon as late symptoms. In an article in the *Journal of the American Medical Association* for June 19, Dr. S. Calvin Smith seems inclined to the belief that even the slight functional derangements of the heart must be recognized as indicating organic disease in embryo even if such cases may never develop anything serious. Any sort of irregular action, short breath on slight exertion—even flatulence of the stomach—should be followed up as a possible first stage of progressive cardiac inefficiency. This view would meet with the approval of the insurance companies and in theory is sound. But at the same time it is a regression to a remote period of the past, when a man with functional anomalies of the heart was commonly regarded by practitioners and insurance examiners as already a developed case of heart disease. In one of Poe's biographies we read that Dr. Francis, the leading practitioner of New York, while taking the poet's pulse noted a missed beat and told the hostess, Mrs. Shelton, that Poe "had heart disease and would not live long."

Long after this period the insurance companies rejected unconditionally for functional irregularities. It took the profession and insurance companies many years to learn that not only such irregularities but even actual valvular lesions were not incompatible with long life; so that finally each case was properly individualized. If the plan suggested by Dr. Smith were followed out it is true that many lives would be prolonged, but thousands whose longevity was not menaced would be made hypochondriacs and would be driven to seek counsel from irregular practitioners and cultists who for business reasons would be optimistic. Since most people are insurable and the majority carry insurance it ought to be sufficient to leave the subject of functional irregularities to the examiners, who commonly postpone such cases until a second examination, when more often than not the irregular action will be shown to have been only temporary.

**HEDJAZ.** See ARABIA.

**HELIUM.** See CHEMISTRY, under *General Chemistry*; PHYSICS.

**HERDT, LOUIS A.** Professor of electrical engineering at McGill University, Montreal, Canada, died at Montreal, April 11. He was born at Trouville, France, in 1872, and, moving to Canada, graduated from McGill University, later studying at the École Supérieure d'Électricité at Paris, and the Institut Electrotechnique, Montefiore, Liège, Belgium. In 1899, he became a member of the staff of the electrical department of McGill University, and also carried on a consulting practice, representing the City of Winnipeg in a large hydro-electric development, and serving as technical expert for the Ottawa Electric Company, Ottawa, Canada, City of Montreal, Montreal, Canada, the Dominion Government of Canada, and other corporations, and governing bodies. He was chairman of the Canadian National Committee of the International Electrotechnical Commission, and also of the Montreal Electric Service Commission. He was vice-chairman of the Montreal Tramways Commission. In 1909 he was made Macdonald professor of electrical engineering at McGill University. During the World War he served in France and received the decoration of the Legion of Honor. He was honorary secretary of the American Institute of Electrical Engineers, and a member of the Institution of Electrical Engineers, as well as a fellow of the Royal Society of Canada. He was the author of many technical papers.

**HEREDITY.** See ZOOLOGY.

**HERING, CARL.** American electrical engineer, died at Philadelphia, Pa., May 10. He was born at Philadelphia, Pa., Mar. 29, 1860, and studied at the University of Pennsylvania, taking the degree of B.S. in 1880 and that of M.E. in 1887. In the interval he carried on post graduate studies at Darmstadt, Germany, and on his return to the United States practiced electrical engineering in Philadelphia, devoting himself specially to electric furnaces, electrochemistry, physical research, and patent litigation. He was for several years instructor at the University of Pennsylvania, and also at the Polytechnikum, Darmstadt, Germany. He was a delegate and juror of awards at 12 expositions, including the Paris Expositions of 1889 and 1900, the International Electrical Congress in Paris, 1900, and several international conferences on elec-

tricity and engineering. He was decorated with the Legion of Honor in 1901, and appointed an *Officier de l'Instruction Publique* in 1889. He was president of the American Institute of Electrical Engineers, 1900-01, and president of the American Electrochemical Society in 1906-07. He was a member of many learned societies in Philadelphia and New York. His published works included: *Digest of Electrical Literature*; *Conversion Tables* (1904); *Tables of Electrochemical Equivalents* (1917); and other books. In 1912 the University of Pennsylvania conferred on him the honorary degree of D.Sc.

**HERMANN, BINGER.** American lawyer and politician, died at Roseburg, Oregon, April 15. He was born at Lonaconing, Allegheny County, Maryland, Feb. 19, 1843, and was educated in district schools and at the Independent Academy near Baltimore. With his father he moved to Oregon in 1859, and after teaching school in Canyonville, Oregon, was admitted to the Oregon bar in 1866, practicing at Roseburg. He was elected a member of the Oregon House of Representatives in 1866, and served in the State Senate from 1868-71. In 1885 he became a member of the Forty-ninth United States Congress, and served in the Fifty-first and intermediate Congresses through the Fifty-fourth, when in 1897 he resigned to become commissioner of the United States General Land Office at Washington, D. C., by appointment of President McKinley. During his tenure of this office he became involved in the inquiry ordered by Secretary of the Interior Hitchcock in 1902 concerning the land entries. This developed into a political fight involving the United States Senators and Congressmen of Oregon and other western states, and in 1903 Hermann resigned, and being tried in Washington on the charge of destroying government records, was acquitted. He was a candidate for Congress, and was elected to the Fifty-eighth Congress to fill a vacancy, being reelected to the Fifty-ninth Congress, and serving until 1907. He was judge advocate with the rank of colonel in the Oregon militia, 1882-84, and was a member of the National Committee to establish the University of the United States.

**HERBING, AUGUSTUS M.** American airplane designer, died at Brooklyn, N. Y., July 17. He was born in Conyers, Ga., in 1867, and at an early age became interested in problems of artificial flight. He studied at the Stevens Institute of Technology in the class of 1888, and in the following year developed the aerofoll or the curved surface used in the airplane. He joined the staff of Professor Langley at the Smithsonian Institution, Washington, and while there he did considerable experimental work, developing model machines and in 1896 filed an application for a patent on the curved wing flying machine which was rejected. In 1898 he constructed a machine which was said to have flown 36 feet at an altitude of about 10 feet, being operated by compressed air. In 1903 he exhibited great interest in the work of the Wright brothers and afforded them access to data developed by him in his research experiments. In 1908 after constructing a plane that was wrecked in the preliminary flight, he organized with Glenn Curtiss the Herring-Curtiss Company, and their machine sent to France for the air races in 1909 proved victorious. In the following year he became connected with the

Starling-Burgess Company of Marblehead, Mass., and personally flew a plane made by that organization. In the latter part of his life he did not participate actively in aviation as he was discouraged by various experiences with his patents and unfortunate relations with some of his associates, in addition to ill health.

**HESSE, hēs.** Since November, 1918, a republican state of the German Republic, situated in the western part of Germany; formerly a grand duchy of the German Empire. Area, 2968 square miles; population, at the census of 1925, 1,347,279. The capital is Darmstadt with a population of 89,465. Other important cities are: Mayence, or Mainz, with 108,557 (with suburbs); Offenbach, 79,362; Worms, 47,015; and Giessen, 33,600. In 1925 there were 958 public elementary schools with 4088 teachers and 142,451 pupils. The areas and yields of the chief crops in 1925 were: Wheat, 63,535 acres, 53,302 tons; rye, 141,595 acres, 103,378 tons; barley, 104,937 acres, 84,127 tons; oats, 117,490 acres, 80,035 tons; potatoes, 150,417 acres, 992,149 tons; 34,022 acres under vines, yielding 8,783,888 gallons of wine. On Dec. 1, 1925, there were 288,198 cattle, 53,005 sheep, 289,712 swine, and 147,879 goats. The ordinary revenue and expenditure for the year 1925 were estimated to balance at 139,876,709 marks. The government has a uni-cameral legislature and a responsible ministry. As a result of the elections of Dec. 7, 1924, the Landtag was composed as follows: Majority Socialists, 26; Democrats, 9; German People's Party, 8; Centre (Catholics), 11; German Nationalists, 5; Hessian Peasants' Union, 6; Communists, 4; other parties, 6. The Landtag is composed of 70 members elected for three years. The cabinet was headed by Herr Ulrich, premier and minister of foreign affairs. Other members were H. Henrich, Finance; H. von Brentano, Interior and Justice; H. Raab, Labor and Economic Affairs.

**HEWINS, CAROLINE MARIA.** American librarian, died at Hartford, Conn., November 4. She was born at Roxbury, Mass., Oct. 10, 1846, and after attending High Schools in Boston, was trained in library work at the Boston Athenæum. She taught in private schools for many years, took a special course in Boston University, and in 1875 became librarian of the Hartford Library Association, and in 1892 of the Hartford Public Library. She had been secretary of the Connecticut Public Library Commission since 1893, and as a member of the American Library Association, she served as counselor, 1885-88 and 1893-02, and 1909-12, and as vice president of the League of Library Commissioners, 1907-08. Miss Hewins was a member of the American Library Institute and of the Connecticut Library Association, having been its secretary 1891-93, and president 1912-13. She was also known for her juvenile writings as well as for her contributions to magazines on library subjects, being the author of: *Books for the Young*; *Books for Boys and Girls*; and *A Traveler's Letters to Boys and Girls* (1923). She was a lecturer on various library subjects in library schools.

**HIDES.** See LEATHER.

**HIGH BLOOD PRESSURE.** The general tendency in the past has been to make several different varieties of this affection according to the causal factors, one of the leading types being associated with cardiorenal disease. One type

in which the causes are not apparent has been known as essential hypertension. Quite recently this tendency has been radically modified so that some authorities are inclined to regard the condition in question as a disease per se and not a mere symptom. For example it has been found that in the cardiorenal type death seldom is due to the state of the kidneys, the patient being carried off by heart disease, cerebral hemorrhage or some chance affection which has nothing to do with the high blood pressure.

In the *Journal of the American Medical Association* for September 18, there were two papers on the subject of high blood pressure by Andrews and Paullin respectively with the accompanying discussion. The patients do not seem to relish the information that high pressure is a symptom and that it is a natural defense of the organism against some hostile agency. They prefer to think of it as a disease and demand that it be brought down. Andrews is not sure that these patients always need circulatory sedatives for in some cases at least they respond better to heart stimulants. This is true especially of a type in which the patients show marked diurnal fluctuation, increasing with exertion and coming down again with rest. Exertion also causes fatigue, short breath and general incapacity for work. These patients may have formed the habit of taking nitrites daily when it is evident that the heart muscle is weak and requires the administration of digitalis in tonic doses.

Paullin's paper was an analysis of 76 cases of essential hypertension which he had supervised from 5 to 17 years. During this period half of the men patients and less than 10 per cent of the women died, but there was very little mortality from kidney disease, cardiac failure and cerebral hemorrhage being the chief causes of death. Study of the blood pressure is of no prognostic value. In the discussion Christian of Boston was not sure that the blood pressure apparatus does not do more harm than good by making hypochondriacs. Few high pressure patients die by the kidneys. Barker of Johns Hopkins said that digitalis will sometimes actually bring down the blood pressure and Nichols praises sodium sulphocyanate as a drug for lowering the blood pressure.

**HIGH SCHOOLS.** See EDUCATION IN THE UNITED STATES.

**HIOKI, EKI.** Japanese statesman, member of the House of Peers, and former Ambassador to Germany, died at Tokio, Japan, October 19. He was born in Miyi-ken, Japan, in 1863, and after graduating in law at the Imperial University in Tokio in 1888, he entered the diplomatic service, being Attaché at New York in 1889, and Secretary of the Japanese Legation at Washington in 1891. He served at Petrograd in 1892, and at Seoul in 1894. He was at Peking in 1900, and again at Washington in 1903. He was with the Japanese Embassy in Germany in 1906, and in 1908 became Japanese Minister to Chile, serving until 1914, when he spent two years as Japanese Minister to China. He was Minister to Sweden, Norway, and Denmark, 1918-20, and in the latter year became Ambassador to Germany, serving until 1924. In 1925 he was a delegate to the Chinese Customs Tariff Conference at Peking. He was active in promoting friendship between Japan and the

United States, and maintained cordial relations with many Americans.

**HISPANIC SOCIETY OF AMERICA.** An international organization founded in 1904, in New York City to establish a public library and museum designed to be a link between the English-, Spanish-, and Portuguese-speaking peoples, and to advance the study of the Spanish and Portuguese languages, literature, and history, and the study of the countries wherein Spanish and Portuguese are or have been spoken languages. In 1904 there was placed in the charge of the Society a collection of paintings, manuscripts, maps, and coins, and a library of about forty thousand books. These collections had been greatly increased and in 1926 there were on exhibition in the building opened in 1908 permanent collections of paintings, sculpture, metalwork, pottery, textiles, and other art objects, in addition to the largest and best collection of the paintings of Ignacio Sorolla in the world. The Society has held several notable temporary exhibitions of paintings, sculpture, photographs, prints, etc., among them those of the works of Sorolla, Zuloaga, Cervantes, and Lope de Vega. Membership in the Society, limited to 100, is honorary, and includes specialists and scholars of all nationalities distinguished in the Hispanic field. Publications of the Society number more than 175 and include catalogues, reprints of old manuscripts, and monographs. The *Revue Hispanique* is published every two months in Paris. The museum and headquarters of the Society are at 156th Street, West of Broadway, New York City. The president is Archer M. Huntington and the secretary, George Bird Grinnell.

**HISTORICAL ASSOCIATION, AMERICAN.** A society for the promotion of historical studies and writing, formed in 1884 by a group of American scholars and chartered by Congress in 1889. Under provision made by the United States Government, it publishes annual reports, and is charged with the office of communicating its proceedings and its information on the state of historical study and writing to the secretary of the Smithsonian Institution, for transmission to Congress.

In 1926 the Association had some 3100 members who represented not only every State of the Union, but also Canada and many European and South American countries. It invites to membership not only those engaged in historical work and teaching, but also all feeling a sufficient interest in historical science to prompt them to join. Meetings of the Association are annual. That of the year 1926 was held December 28-30, at Rochester, N. Y. Among the topics discussed at the various conferences were "Suggestions for an Agricultural Who's Who in the Ante-Bellum Period"; "The College and Research"; "The Far East"; "Some Phases of Medieval Intellectual History"; "The Promotion of 'American History and of History in America'"; "The Influence of Europe in the Development of American Civilization"; "The Near East"; "Intersectional Relations"; "Modern European History"; "American History"; "Hispanic-American History"; "Modern European History." Pres. Dana C. Munro spoke on "War and History," and joint sessions were held with the Mississippi Valley Historical Association and the Agricultural History Society.

For the encouragement of historical research

the Association offers two biennial prizes of two hundred dollars each, for the best monograph, printed or manuscript, in the English language, submitted by a writer who has not achieved an established reputation. The Herbert Baxter Adams prize is awarded in odd years for an essay in the history of the eastern hemisphere. In even years the Justin Winsor prize is awarded for an essay in the history of the western hemisphere, including the insular possessions of the United States. In 1926, this was awarded to Prof. L. J. Ragatz of George Washington University, his topic being "Decline of the British West Indies, 1763-1833." A third prize, bearing the name of its founder, the late George Louis Beer, amounting to \$250 is offered annually for the best work upon any phase of European international history since 1895; while a medal struck in honor of Jean Jules Jusserand, former Ambassador of the French Republic to the United States and a former president of the Association, is offered annually for the best work on intellectual relations between America and one or more European countries.

The official organ of the Association is *The American Historical Review* (quarterly). The *Annual Report* is also published, containing proceedings, important papers read at the annual meetings, texts of significant documents, reports on American archives, reports on history teaching, and papers on agricultural history. Publications issued during 1926 were: *Annual Report 1921*; *Annual Report 1923*; *Supplement* (Writings on American History, 1923). Officers in 1926 were: president, Dana C. Munro; first vice-president, Henry Osborn Taylor; second vice-president, James H. Breasted; secretary, John S. Bassett; treasurer, Charles Moore; assistant secretary-treasurer, Patty W. Washington; editor, Allen R. Boyd. New officers for 1927, elected at the annual meeting in December, 1926, were: president, Henry Osborn Taylor; first vice-president, James H. Breasted; second vice-president, James Harvey Robinson. The other officers remained the same as in 1926.

**HISTORY.** See LITERATURE, ENGLISH AND AMERICAN, FRENCH LITERATURE, GERMAN LITERATURE, SCANDINAVIAN LITERATURE, SPANISH LITERATURE, ETC.

**HOBAN**, THE RT. REV. MICHAEL JOHN. Roman Catholic bishop of Scranton, Pa., died November 13. He was born on June 6, 1853, at Waterloo, N. J.; and from 1867-8 he attended St. Francis Xavier College, N. Y., from which he went to Holy Cross College, Worcester, Mass. In 1874-5, he studied at St. Charles Seminary, Philadelphia; and from 1875-80, at the American College, Rome, Italy. He was ordained priest May 22, 1880, and on Mar. 22, 1896, was consecrated titular bishop of Alalis, and appointed coadjutor bishop of Scranton, with right of succession, succeeding Bishop O'Hara on Feb. 3, 1899. He was a director of the Public Charities Association of Pennsylvania.

**HOBART**, GEORGE VERE. American author and playwright, died at Cumberland, Md., January 31. Born at Cape Breton, N. S., Jan. 16, 1867, and educated in Nova Scotia, he entered on newspaper work, and in 1895 was managing editor of the *Sunday Scimitar*, Cumberland, Md. In the following year he went to Baltimore, Md., serving on various papers, writing special humorous articles for the *Baltimore American*. He originated the "Dinkelspiel"

papers in the *Baltimore News*, writing these articles for 16 years. He wrote or rewrote a large number of comic operas and musical comedies, and was co-author of the play, *Wild-fire*, and of the comedy *Our Mrs. McChesney* which was written for Ethel Barrymore. He also wrote *Buddies*, *Sonny*, and the morality play entitled *Experience*. In addition to the *John Henry* books, a series of comic stories in 15 volumes, and 6 other books of comedy, and a volume of children's poems, *Li'l Verses for Li'l Fellers*, he wrote, *Idle Moments, in Florida* (1921).

**HOCKEY.** Hockey established itself more firmly than ever as a popular winter sport in 1926. According to estimates, the games of the National Hockey League played in Madison Square Garden, New York, attracted more than 470,000 spectators, whereas the contests of the Eastern Amateur Hockey League decided in the same place drew a total attendance of more than 100,000. The Montreal Maroons were crowned as world champions as the result of the long season's campaign. The Maroons first gained the National Hockey League title and then defeated the Victoria Cougars, also of Canada, in the Stanley Cup series, three games to one. Seven teams constituted the National League, four in Canada and three in the United States. The Canadian sextettes were the Ottawas, the Maroons and Canadians of Montreal and the Torontos. New York, Pittsburgh and Boston furnished the American entries. The Eastern Amateur League comprised three New York teams and two Boston clubs, the championship going to the Boston Athletic Association. Among the college sextettes Harvard made the best showing, winning the "Big Three" title and also defeating some of the leading Canadian college aggregations.

**HOG CHOLERA.** See VETERINARY MEDICINE.

**HOGS.** See LIVESTOCK.

**HOGS**, FEEDING CITY GARBAGE TO. See GARBAGE AND REFUSE DISPOSAL.

**HOLLAND.** See NETHERLANDS.

**HOLLAND**, SIR (THOMAS) ERSKINE. English jurist and authority on international law, died at Oxford, England, May 24. He was born in Sussex, July 17, 1835, and was educated at Brighton College, and at Balliol and Magdalen Colleges, Oxford, taking classical honors at the latter college. He was a fellow of Exeter College from 1859-71, and in 1860 was Chancellor's prizeman. He was a barrister of Lincoln's Inn in 1863, and in 1874 became Vinerian reader in English law at Oxford, being almost immediately made professor of international law and diplomacy, a chair he held until 1910. He was a fellow of All Souls College, Oxford from 1875, and he was assessor (sole judge) of the Chancellor's Court, 1876-1910. He received the honorary degree of D.C.L. from Oxford, and that of LL.D. from Bologna, Glasgow, Dublin, and Brussels, besides being an honorary member of the University of Petrograd, and of various legal and international law institutes and societies. In 1913, he was president of the Institut de Droit International. He was a Commander of the Order of the Crown of Italy, a Grand Commander of the Rising Sun of Japan, and a member of the Royal Commission on the Supply of Food, etc., in Time of War, 1903-05. He was British Plenipotentiary at the Geneva Conference in 1906, and in 1907 was chosen a

bencher of Lincoln's Inn. His extensive publications in the field of international law include: *An Essay on Composition Deeds* (1864, 1865); *Essays on the Form of the Law* (1870); *The Institutes of Justinian, as a Recension of the Institutes of Gaius* (1873, 1881); *Albericus Gentilis* (a lecture) (1874); *Tradotto da Aurelio Saffi* (1884); *Alberici Gentilis De Jure Belli* (1877); *The Elements of Jurisprudence* (1880) (which gained the Swiney Prize, 1894), (thirteenth English edition, 1924); *The European Concert in the Eastern Question* (1885); *The Admiralty Manual of Naval Prize Law* (1888); *Studies in International Law* (1898); *The War Office Manual of the Laws and Customs of War on Land* (1904); *Neutral Duties in a Maritime War* (1905); *The Laws of War on Land* (1908); *A Valedictory Retrospect* (1910); *Proposed Changes in the Law of Prize* (1911); *R. Zouch Jus Feciale* (1911); *Io. de ligmano De Bello* (1917, etc.); and *Letters to the "Times" on War and Neutrality*, (Ed. iii., containing the letters of 40 years, 1881-1920).

**HOLLEY, MARIETTA.** American author, died at Pierrepont Manor, N. Y., March 1. She was born at Ellipsisburg, Jefferson County, N. Y., and at the age of 16 began writing poetry for the country press. This was followed by prose contributions to various periodicals, in which the adventures of Samantha, and the savings and doings of Josiah Allen's Wife were related, and which had a wide vogue. Her books included: *My Opinions and Betsy Bobbett's* (1873); *Samantha at the Centennial* (1877); *My Wayward Partner* (1880); *The Mormon Wife* (illus. poem) (1880); *Miss Richard's Boy* (1883); *Sweet Cicely* (1885); *Poems* (1886); *Samantha at Saratoga* (1887); *Samantha Amongst the Brethren* (1890); *Samantha Amongst the Colored Folks* (1892); *Samantha at the World's Fair* (1893); *Samantha in Europe* (1895); *Around the World with Josiah Allen's Wife* (1899); *Samantha at the St. Louis Exposition* (1904); *The Borrowed Automobile* (1906); *Samantha on Children's Rights* (1909); *Who Was to Blame?* (booklet) (1910); *Samantha at Concy Island and One Thousand More Islands* (1911); *Samantha on Women's Rights* (1913); and *Josiah Allen on Women's Rights* (1914).

**HOLT, HENRY.** American author and publisher, died in New York City, February 13. He was born in Baltimore, Md., Jan. 3, 1840, and, graduating from Yale in 1862, studied law at Columbia Law School, receiving the degree of LL.B. in 1864. He entered the publishing business in 1863 with G. P. Putnam, but later started on his own account, and in 1873 became president of the firm of Henry Holt and Company, a publishing house that soon became identified with the preparation of substantial and worthy literature, and educational texts. Mr. Holt was not only a good business man whose organization flourished under his direction, but with a wide range of culture, and an appreciation and taste for literature, he was able to exercise an intelligent judgment as to the nature and quality of the books turned out. He was also an author, writing various works on social and literary subjects, as well as on philosophy and psychical research. To express his own taste and feelings he established the *Unpopular Review*, which later became known as *The Unpartizan Review*, and a few years be-

fore his death, published a volume of reminiscences entitled *Garrulities of an Octogenarian Editor* (1923) which were interesting observations of one who was the dean of American publishers.

Mr. Holt's activity covered many fields and he was interested in various undertakings. He was a trustee and councilor of the American Society for Psychical Research, and was active in promoting simplified spelling, being a member of the first executive committee of the Simplified Spelling Board. He was chairman of the University Settlement Society of New York City, and a trustee of the American Geographical Society of New York, 1891-1910. In 1915 he was a member of the Harvard University Overseers Visiting Committee on philosophy and psychology. He lectured on various occasions at Yale, Columbia, and the University of Vermont, and from 1908-12 was president of the Authors Club of New York. His writings, which as stated covered a wide range of affairs of human interest, included: *Calmire—Man and Nature* (1892); *Talks on Civics* (1901); *Sturmsee—Man and Man* (1905); *On the Civic Relations* (1907); *On the Cosmic Relations* (1914), and (second edition) *The Cosmic Relations and Immortality* (1919).

**HOLY CROSS, COLLEGE OF THE.** A Roman Catholic college under the Society of Jesus, at Worcester, Mass.; founded in 1843. The enrollment for the autumn of 1926 totaled 1110 in the regular course, with a distribution as follows: seniors, 215; juniors, 248; sophomores, 327; freshmen, 320. There were 64 in the B.S. course, as follows: 19 juniors; 21 sophomores; and 24 freshmen. The faculty had 75 members. The library contained 100,000 volumes. President, Rev. Joseph N. Dinand, S.J.

**HOME DEMONSTRATION WORK.** See AGRICULTURAL EXTENSION WORK.

**HOME ECONOMICS.** See AGRICULTURAL EXTENSION WORK, and FOOD AND NUTRITION.

**HONDURAS, hōn-dōō'rās.** A Central American republic, bounded on the north and northeast by the Caribbean Sea, on the southeast by Nicaragua, on the southwest by Salvador and the Pacific Ocean, and on the west by Guatemala. Capital, Tegucigalpa.

**AREA AND POPULATION.** The estimated area is 44,275 square miles; Population, Jan. 1, 1923, according to official figures, 673,408, mostly Indians with a strain of Spanish blood. The chief towns with their populations according to the latest available statistics are: Tegucigalpa, 38,950; Santa Rosa, 13,000; Santa Barbara, 6000; San Pedro, 8000; and Juticalpa, 8000. The chief ports are: Amapala on the Pacific, and Porto Cortez and Omoa on the Atlantic.

**EDUCATION.** Education is free and compulsory between the ages of seven and 15. The president in his message read before congress on Jan. 1, 1926, gave the following facts on public instruction in 1925: "In spite of the disturbed conditions of the country 987 schools were open, of which 577 were city and 410 rural schools. The school census showed 78,857 children, of whom 43,296 were boys and 35,561 girls. The practical and scientific teaching of agriculture has been entrusted by the government to Señor M. García, who has accepted in the Birichiche School 17 young Indians of the department of Gracias, the complement of 40 to be made up



from candidates from the departments of Intibucá and La Paz." At Tegucigalpa there are a national university and military and aviation schools.

**PRODUCTION.** The principal industry is agriculture and the chief product, bananas. They are grown mostly along the Atlantic coast, and constitute the main export. For the year ending July 31, 1925, 15,988,631 bunches of bananas were exported, all but 2,000,000 of them going to the United States. Coconuts are grown extensively on the Pacific coast, and fine grades of coffee and tobacco are produced. The cultivation of sugar is of increasing importance; 27,963,700 pounds were exported in 1924. The mineral resources include gold, silver, copper, lead, iron, zinc, and antimony. Straw hats and cigars are manufactured for the local market.

**COMMERCE.** According to the Pan American Union the value of the imports of Honduras in 1924 was \$11,534,843, representing a decrease of 14.28 per cent as compared with 1923. The share of the United Kingdom in this trade was \$402,586; of France, \$259,886; of Germany, \$198,792; and of the United States, \$10,123,231. The imports from the United Kingdom, Germany, and the United States showed percentage decreases as compared with 1923 of 35.62, 75.61, and 15.74, respectively, while imports from France registered a gain over the previous year of 5.71 per cent. The exports in the same year, chiefly bananas, were valued at \$7,897,047, a decrease of 21.15 per cent as compared with the preceding year. The estimated share of the United Kingdom in this trade was \$600,000; of France, \$3000; of Germany, \$40,000; and of the United States, \$6,800,000. Exports to the United Kingdom were 18.14 per cent less than in 1923; to France, 40 per cent; to Germany, 18.14 per cent; and to the United States, 24.19 per cent.

**FINANCE.** The budget for 1925-26 balanced at 10,832,440 pesos. The Congress of Honduras in its session of Apr. 3, 1926, adopted a law establishing the gold standard for the currency of the republic, which hitherto had been on a silver basis. The new currency unit, having a value of \$0.50, U. S. gold, will be called "lempira" after a native chief renowned in the early history of Honduras. By the same law the circulation of foreign silver currencies in the country is forbidden, the only legal tender being the currencies of Honduras and the United States. In March, 1926, the debt of Honduras to Great Britain was settled on the basis of funding all claims in the sum of £1,200,000, which is to be paid back in 30 annual installments of £40,000 each. The revenue to meet this debt was to be collected by the National City Bank as a result of a three per cent consular service tax on the imports into Honduras.

**COMMUNICATIONS.** The total length of railway mileage in 1924 was 934 miles, most of it being used in the cartage of bananas from the interior to the seacoast.

**GOVERNMENT.** According to the constitution of Oct. 3, 1924, the executive power is vested in a president nominated and elected by popular vote, and holding office for four years; legislative power is in a chamber of deputies consisting of 43 members chosen for four years directly by popular vote. President at the beginning of 1926, Dr. Miguel Paz Barahona.

**HISTORY.** On March 8 the Honduras legis-

lature ratified an agreement signed at Washington on Oct. 29, 1925, for the settlement of the British debt. According to the terms of the settlement a long standing debt, totaling with accrued interest, approximately \$150,000,000, was to be cancelled by the payment on the part of Honduras of a total of approximately \$6,000,000, in semi-annual installments without interest, over a period of 30 years.

**HONDURAS, BRITISH.** See **BRITISH HONDURAS**.

**HONGKONG.** A possession of Great Britain at the mouth of the Canton River, about 80 miles to the south of Canton; comprising an irregularly shaped island, 11 miles long from east to west, varying from 2 to 5 miles in breadth, with an area of 32 square miles; also the opposite peninsula of Kowloon, separated from it by a strait about a half mile wide. Total area, 391 square miles. In 1916 a scheme was begun for the reclamation of 9,500,000 square feet of land from the sea in Kowloon Bay; this project was still in progress in 1926. The population, according to the census of 1921, was 625,166, of whom 612,310 were Chinese; estimated in the middle of 1924 at 799,550. The movement of population in 1924 was: Births, 4143; deaths, 15,553. In the same year the number of Chinese immigrants was 130,194 and the number of emigrants, 129,850. While education is not compulsory, the schools are under government inspection and required to keep certain standards. The total number of pupils in all schools in 1924 was 58,930 and the total expenditure on education, \$932,924. For higher education there is the British University of Hongkong which is attended mostly by Chinese students.

The chief industries are sugar refining, ship-building, rope-making, the manufacture of tobacco, cement, knit goods, and tin refining. The latest available statistics for trade are those of 1924 when the imports were valued at £75,055,085 and the exports, £70,671,992. The revenue for 1924 was £2,874,895 and the expenditure, £3,173,763. In the same year, 28,716 vessels, including 13,661 junks and 3856 steam-launches, representing altogether 19,202,333 tons entered the port and 29,049 vessels, including 13,864 junks and 3975 steam-launches, representing 19,568,166 tons cleared. Besides these it was estimated that 13,500 fishing boats put into the bays and harbors of Hongkong in the course of the year. The colony is under a governor aided by executive and legislative councils. Governor at the beginning of 1926, Sir Cecil Clementi (appointed in 1925).

**HOPS.** The world's hop production in 1926, based on trade reports, was estimated at somewhat below the 124,000,000 pounds produced in 1925. The total production of Belgium, Great Britain, Czecho-Slovakia and the United States, as reported by the International Institute of Agriculture, Rome, was about the same for the two years. According to these estimates the 1926 yield of Belgium was 4,998,000 pounds, of Great Britain 37,184,000 pounds and of Czecho-Slovakia 18,686,700 pounds. Germany, which produced about 10,646,000 pounds in 1925, had a much smaller production in 1926, variously estimated at less than 5,000,000 pounds. The crop of the United States, as estimated by the Department of Agriculture, was 29,428,000 pounds against 28,573,000 pounds produced in 1925. The



area devoted to the crop in 1926 comprised 20,800 acres, an increase of 450 acres over the acreage in 1924 and 1925. The average yield per acre of 1415 pounds was 11 pounds above the average acre yield of the preceding year. The average farm price Dec. 1, 1926, was 23 cents per pound and on this basis the total value of the crop was \$6,778,000 as compared with \$6,232,000 in 1925. Washington, Oregon and California continued to be the leading hop growing States and the estimates of acreage and production issued by the Department of Agriculture were based only on these States. According to these estimates for 1926 Oregon produced 14,950,000 pounds on 13,000 acres, California 8,910,000 pounds on 5400 acres and Washington 5,568,000 pounds on 2400 acres. The average farm price Dec. 1, 1926, was 25 cents per pound in Oregon and 21 cents per pound in California and Washington. In 1924 the corresponding price in these States was only 10.3 cents per pound.

**HORNER, RALPH JOSEPH.** A Canadian composer and conductor, died at Winnipeg, April 7. He was born at Newport, England, Apr. 28, 1848, and received his musical education at the Leipzig Conservatory. On his return to England he settled at Camberwell as a teacher. From 1873-75 he was conductor of the Peckham Choral Society and organist at St. Mary's. The next twelve years he traveled as conductor of various operatic companies. From 1889-1905 he lived in Nottingham as lecturer at the University and conductor of the Orchestral Society (1889-95) and the Operatic Society (1893-1900). After a three years' stay in New York he settled permanently in Winnipeg, in 1909, where he was director of the Imperial Academy of Music and Arts and conductor of the Oratorio Society until 1912. He then organized the Ralph Horner Opera Company, which had several successful seasons. His compositions include two operas, *Amy Robsart* and *The Belles of Barcelona*, six operettas, two oratorios, several cantatas, orchestral works and chamber-music.

**HORTICULTURE.** In the annals of the horticultural industry 1926 will go down as an overproduction year. This situation was especially true in regard to deciduous fruits. Practically every important growing section of the United States and Canada yielded abundant crops of fruit. As a result, apples, pears, peaches and grapes sold at lower prices than for many years. In fact, in certain of the northern States the demand for fruit was insufficient at times to create a market. To make matters worse, the growing season in the northeastern States was cold and wet, a condition which engendered poor quality and delayed ripening and added to the general distress. The apple growers in the Pacific Northwest suffered severe losses from an untimely September freeze, which caught late-maturing varieties while still attached to the tree and injured the fruit so severely that vast quantities dropped prematurely. That portion which remained attached ripened too early and was mostly unfit for shipment. The losses are roughly estimated to approach 30,000 carloads of fruit. From the northern fruit growers' viewpoint 1926 was a decidedly disastrous year. On the other hand, Florida and California growers were successful in marketing large crops of oranges, raisins and nuts at satisfactory prices and a greater part of the large Georgia peach

crop was disposed of to advantage. The value of cooperative selling was clearly demonstrated; southern and western fruit growers operating under its beneficial system had a good year, while northern fruit growers, operating without its aid, had a distinctly bad year.

**THE FOREIGN SITUATION.** The apple crop in Great Britain, Germany, and other parts of Europe was much below the average in quality and quantity, a condition which would normally favor North American export trade, except that the purchasing power in most of the European countries was still below prewar levels. The almond crop in France, Spain and Italy was very satisfactory. In Roumania the walnut yields were above the average in size and quality, but in France unfavorable weather seriously reduced this crop. Evidence that European growers are beginning to adopt modern methods was shown in a steady increase in the use of chemical fertilizers to supplement animal manures.

In the southern hemisphere fruit growing continued to make great forward strides, but suffered severe financial losses from the handicap of being distant from the world's important markets. The Australian apple crop reached Great Britain just following the arsenic scare and in the midst of the general labor strike. As a result, much of the fruit was sold below the cost of production and shipping. Australian fruit growers vainly sought a Government guarantee for the minimum price. The South African orange crop was handled with much less loss than in 1925, due to the creation of an effective Government export agency. Italian colonists in Paraguay planted extensive citrus orchards, one community alone setting 127,000 trees in 1926. In Brazil the State of Bahia encouraged citrus production by making easy loans to the growers and supplying insecticides and other necessary materials at cost. The truck growing industry upon the west coast of Mexico expanded rapidly in 1926, greatly increasing the shipments of green peas, peppers, tomatoes, cucumbers and other vegetables to the United States. Bermuda supplied the New York market with over 74,000 bu. of celery. For the first time in history Georgia peaches were shipped in carload lots to England, and when arriving in good condition sold at a profit.

**FOREIGN TRADE.** According to statistical information obtained from the U. S. Department of Commerce, (U. S. Department of Commerce, Bureau Foreign and Domestic Commerce, Monthly Summary Foreign Commerce of the United States, December, 1926, pt. 1) for the full 12 months of 1926, there was a significant gain in the total value of exports for 1926 as compared with those of 1925. On the other hand, in the case of imports there was a remarkable similarity in total values. The total value of imported fruits, vegetables, nuts and nursery stock through Dec. 31, 1926, was \$133,215,030 as compared with \$134,685,401 for the corresponding period of 1925. The total value of exported fruits, vegetables, nuts and nursery stock for the 12 months of 1926 was \$133,139,285 as compared with \$121,514,603 for the corresponding period of 1925. A significant improvement in the general trade situation in respect to horticultural products is indicated in the greatly reduced margin between total value of imports and exports.

**PRODUCTION DATA.** Figures released Dec. 20,

1926, by the Bureau of Agricultural Economics of the U. S. Department of Agriculture show sharp yield gains as compared with 1925 in practically all horticultural crops, especially fruits. The total apple crop of 1926 was 246,460,000 bu. as compared with 172,389,000 bu. in 1925. The commercial apple crop was 39,095,000 bbls. as compared with 33,246,000 bbls. in 1925. Pears showed an advance from 20,720,000 bu. in 1925 to 25,644,000 bu. in 1926. Peaches gained almost 50 per cent, from 46,562,000 bu. in 1925 to 68,425,000 bu. in 1926. Grapes yielded 2,349,117 tons in 1926 as compared with 2,064,085 tons in 1925. Strawberries, estimated at 256,411,000 qt. in 1926 showed a sharp gain above the 1925 figure of 211,396,000 qt. The cranberry crop of 1926 was 720,000 bbls. as compared with 569,000 bbls. in 1925. Citrus fruits varied much less, the yields of 1926 and 1925 being remarkably similar. Orange estimates showed 33,900,000 boxes in 1926 and 33,300,000 boxes in 1925. The California lemon crop was 7,200,000 boxes in 1926 and 7,136,000 boxes in 1925. Florida grapefruit showed a slight decline in 1926, being 6,900,000 boxes as compared with 7,300,000 in 1925.

In truck crops the situation was by no means so one-sided. Tomato production in 1926 showed a big decline from the preceding year—1,388,784 tons as compared with 2,321,588 tons. The canning crop of sweet corn fell off from 1,014,000 tons in 1925 to 803,000 tons in 1926. Cucumbers declined from 12,217,000 bu. in 1925 to 8,801,000 bu. in 1926. Eggplants dropped from 904,000 bu. in 1925 to 786,000 bu. in 1926. Peanuts declined from 698,475,000 lbs. to 626,866,000 lbs., dried beans from 19,928,000 bu. to 17,139,000 bu., snap beans from 137,960 tons to 104,256 tons. For several of the truck crops the 1926 and 1925 production estimates were very similar, the figures for green peas being 253,604 and 242,428 tons, cantaloupes 14,038,000 and 14,258,000 crates, carrots 4,355,000 and 4,158,000 bu., celery 6,523,000 and 6,685,000 crates, cabbage 981,700 and 946,200 tons, respectively. Notable gains for 1926 were shown in the case of cauliflower, rising from 3,393,000 crates in 1925 to 5,550,000 crates in 1926; asparagus, from 5,323,000 to 7,645,000 crates; white potatoes, from 323,465,000 to 357,800,000 bu., sweet potatoes, from 62,319,000 bu. to 83,658,000 bu.; onions, from 19,423,000 bu. to 20,625,000 bu.; lettuce, from 16,076,000 to 17,236,000 crates; peppers, from 3,455,000 bu. to 3,933,000 bu.; spinach, from 106,608 tons to 119,200 tons; watermelons, from 56,498 cars to 69,551 cars; maple products, from 27,948,000 lbs. to 34,776,000 lbs.

**PROTECTIVE MEASURES.** American agriculture was being protected, according to the annual report of the Federal Horticultural Board, by 22 quarantines restricting the entry of plants and plant products known to be carriers of plant pests. In addition, the spread of pests within the United States and between the insular possessions and the mainland is covered by some 17 domestic quarantines. The entry of narcissus bulbs was placed under restriction on Jan. 1, 1926, despite strenuous objections on the part of the flower trade and amateur gardeners. Indications pointed to the fact that within one or two years domestic supplies equal to if not greater than those formerly imported would become available. Because of the continued danger

of the Mediterranean fruit fly, the embargo on the Almeria or Malaga grape was reaffirmed. Sufficient progress was made during the year in the eradication of the *Parlatoria* date scale to lead to the confident assertion that in a few years this dangerous insect will be entirely eradicated from the United States.

**COÖPERATIVE MARKETING.** As a year of heavy production, 1926 proved a very severe test for coöperative marketing agencies. Yet as a rule the coöperatives made good, especially those that were well organized and managed. During the year ended October 31, the California Fruit Growers' Exchange handled 34,083 cars of oranges and grapefruits and 12,510 cars of lemons, a total of 46,593 cars of citrous fruits, 73.2 per cent of the total California shipments. By careful distribution, the exchange was able to secure satisfactory prices despite the generally overloaded fruit market, returning to the growers over \$70,000,000, a greater sum than in any previous year. Valencia oranges, ripening as they do in the summer season and not competing with the Florida crop, are becoming increasingly important in California, while navels are practically at a standstill. The exchange exported 74 carloads of grapefruit to Europe with profitable results. In addition to shipped lemons, 3452 carloads were converted into byproducts.

A relatively large California almond crop and a short walnut crop were promptly marketed through growers' associations at satisfactory figures. In the East the American Cranberry Growers' Exchange succeeded in handling an unusually large crop through the use of effective advertising and well-planned distribution. The reorganization of the Florida Citrus Exchange aided greatly in the orderly and profitable disposal of a large Florida citrous crop. A number of apple growers and dealers, realizing the handicap of marketing an oversized crop without coöperation, attempted to set up an advertising agency to push the sales of this fruit. A nonprofit-making corporation entitled "Apples for Health" was formed, with headquarters in Chicago, but in the face of the large surplus and a demoralized market could do but little to improve the generally unsatisfactory situation.

**RESEARCH ACTIVITIES.** Industrial horticulture continued during 1926 to receive effective support from scientific investigators. The pedigreed fruit plant theory received another severe setback as a result of studies completed at the California Experiment Station, where grapevines grown from cuttings of high-yielding parents failed to yield more fruit after the second year than did those taken from less productive parents (*Hilgardia* [California Sta.], 2 (1926), No. 1). In plum breeding studies at the Minnesota Experiment Station (*Minnesota Sta. Tech. Bul.* 32, (1925), it was shown that hardness is heritable, at least to the extent that where both parents are hardy the progeny are generally all hardy, and where parents are both tender the progeny are tender. A combination of hardy and tender parents yielded various intergradations. A close correlation between growth and fruiting in the grape was shown in studies at Cornell University, where the removal of blossoms from unpruned Concord vines increased the green weight of top and roots by approximately 36-39 per cent (*Amer. Soc. Hort. Sci.*

*Proc.*, 22 [1925], pp. 74-80). Investigations at the Iowa State College (*Plant Physiol.*, 1 [1926], No. 2, pp. 165-178) show a definite association between the amount of various dyes absorbed from solution by ground tissue of apple trees and the hardness of the variety, an increase being recorded with increased hardness. Cornell University investigators (*Amer. Soc. Hort. Sci. Proc.*, 22 [1925], pp. 201-204) found that tying down the erect growing limbs of young nonbearing apple trees induced earlier bearing of fruit, thus verifying practical results obtained in California. Evidence was secured at the New Jersey Experiment Stations that asparagus can assimilate nitrates even when grown in full darkness. An abundance of nitrates was found in the fibrous absorbing roots of plants growing in complete nutrient solution in continuous darkness (*Science*, 64 [1926], No. 1655, p. 282).

**MISCELLANEOUS.** No clearer proof of the great progress in horticultural knowledge in recent years is needed than the largely increased number of graduate horticultural students enrolled in American colleges in 1926. Furthermore, as material evidence of progress, there were opened during the year, one at Purdue University and one at Michigan State College, two modern horticultural buildings thoroughly equipped with apparatus and laboratories in which to conduct the highest grade of teaching and research. The International Conference on Fruit and Flower Sterility held in New York City August 12-14, under the auspices of the Horticultural Society of New York, was a memorable event, plant breeders being present from throughout the world. Estimates in the *Florida Grower* following the disastrous Florida hurricane in September, placed the damage to the citrus crop at approximately \$10,000,000. These figures, compiled without detailed survey, were probably somewhat excessive, but nevertheless indicated serious losses.

A pilgrimage of eastern fruit growers to the Pacific Northwest, conducted under the auspices of the American Pomological Society, did much to promote better understanding between the two sections and may ultimately lead to removing the present competition between these two important fruit sections. Although it is generally conceded that Alaska will never become a great apple producing region, it is interesting to note that Alaska-grown Yellow Transparent apples were produced in sufficient quantity to be shipped from orchard to market. A Radio Fruit Growers' School, conducted from February 15 to 27 by the University of Illinois through Station WLS of Chicago, was an entirely new and successful departure in extension horticultural teaching.

**ARSENIC SCARE.** The fanning in England in the spring of 1926 of several fruit venders for selling apples with arsenical spray residues greatly embarrassed the American export trade in apples in the late winter and early spring. For a time a sharp downward reaction in price was noticeable, especially in boxed fruit from the Northwestern States, where the lack of rainfall allows the sprays to accumulate on the fruits. The justice of the matter was not entirely clear, some English and many American dealers feeling that the whole affair was started as an embargo measure against American fruits in retaliation for the shutting out of bulbs and

other European products. The reaction was felt even in the United States; a considerable quantity of New Jersey fruit was prohibited from sale in American markets until thoroughly washed. The evil effects of the arsenic scare were not without benefit to American growers, for investigators are now busily engaged in seeking less poisonous but equally effective spray materials and also means of freeing sprayed fruits from poisons. As a temporary expedient, certain large Northwestern apple packers devised and installed automatic wiping machines.

**NECROLOGY.** Luther Burbank\* (q.v.), the well-known nurseryman and plant breeder, died at his home in Santa Rosa, Calif., on April 11. Plans are under way for continuing his work with adequate financial support under the auspices of Leland Stanford University. William Bateson (q.v.), famous English geneticist and past president of the British Association for the Advancement of Science, died on February 8.

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**HOUDINI, HARRY.** American magician, died in Detroit, Mich., October 31, as the indirect result of an accident previously received. He was born in Appleton, Wis., Apr. 6, 1874, the son of the Rev. Dr. Mayer Samuel Weiss, but later legally changed his name to Houdini. He was educated in the public schools, and in 1882, as a youth of nine, began as a trapeze performer traveling with a circus in Wisconsin. The success of the Davenport Brothers then engaged in spiritualistic work, ringing bells, and freeing themselves while bound inside a cabinet, led Houdini to develop a somewhat similar performance and he soon acquired unusual proficiency in this line, escaping from the usual handcuffs and other manacles, and developing various acts involving danger and originality. From 1885-1900 he traveled all over the United States showing with museums, music halls, circuses and medicine shows. He gradually gave up his work as a contortionist and acrobat to develop a special technique of escape from various forms of confinement. In 1900 he went abroad, and, escaping from handcuffs at Scotland Yard, won for himself a six months' engagement at the Alhambra Music Hall, which was followed by a protracted tour of Europe, in the course of which he escaped from many famous prisons.

On his return to America with considerable fame he was featured in vaudeville and continued his prison escapes, making a notable and successful attempt from the Federal Prison at Washington in January, 1902, escaping from the cell in which Guiteau, the assassin of President Garfield, had been confined. In 1908, Houdini developed a new act, where enclosed in an iron-bound chest, he would escape while it was suspended in a tank of water. He would even hang from the roof of a skyscraper, bound in a strait-jacket, from which he would make his way to the street below. Also, when bound hand and foot and locked and nailed in a box

thrown from a boat or bridge into the water, he would free himself and emerge in safety. Houdini made many long tours not only in America, but playing in nearly every important city in Europe, Asia, Africa and Australia, and often was in great danger in the various demonstrations that he gave. He was the inventor of a diving suit, and when in Australia in 1910, was awarded a prize by the Australian Aeronautic League as being the first successful flier in Australia.

He was president of the Society of American Magicians, and president of the Magicians Club of London. He was also a life member of the Authors Club of London, and wrote a number of interesting books dealing with his achievements and with spiritualism, and kindred subjects. He was a member of the *Scientific American* committee that investigated Margery, the Boston spiritualistic medium, and had collected an extraordinary library of works on the theatre, magic, and the black arts. His writings included: *The Right Way to Do Wrong* (1908); *Handcuff Secrets* (1907); *Unmasking of Robert Houdin* (1908); *Miracle Mongers, Paper Prestidigitation; Spooks and Spiritualism; Rope Ties and Escapes; A Magician Among the Spirits* (1924); *The Exposé of Margery*; and *The Zanetti Mystery*.

**HOWARD, JOHN RAYMOND.** American publisher and author, died at Stafford Springs, Conn., December 20. He was born in Brooklyn, N. Y., May 25, 1837, and studied at the University of Rochester, receiving the degree of A.B. in 1857 and that of A.M. in 1860, after serving as instructor at the Polytechnic Institute, Brooklyn. During the Civil War he was a captain and aid-de-camp in the Union Army, and was on court martial duty in 1863; serving as division judge advocate to Feb. 1, 1865. From 1865 to 1867 he was editorial writer on the *New York Times*, *Examiner*, and *Chronicle*; and member of the publishing firms of J. B. Ford & Co., 1867-77, and of Ford, Howard & Hulbert, 1877-1905. He edited several of the works of Henry Ward Beecher and a number of collections of American literature, and was managing editor of *The World's Best Poetry*, a 10-volume anthology. From 1908-9 he was on the editorial staff of Webster's New International Dictionary. He was the author of *Henry Ward Beecher—A Study*, 1888, *Remembrances of Things Past*, 1925, and many articles in *The Christian Union* and *The Outlook*.

**HOWARD UNIVERSITY.** A non-sectarian coeducational institution of higher education at Washington, D. C., incorporated by the Act of Congress, Mar. 2, 1867, "for the education of youth in liberal arts and sciences," open to students without regard to race but principally for the education of negroes. It includes a medical school, school of law, and schools of liberal arts, education, commerce and science, applied science, music, and a department of physical education. Since 1879 Congress has made appropriations for the university, expendable under the supervision of the Secretary of the Interior, who is a patron ex officio of the Board of Trustees. The total enrollment for the autumn of 1926 was 2000, and for the summer session 226. There were 149 members on the faculty, as follows: academic, 51; medical, dental, and pharmaceutical colleges, 63; law, 12; religion, 6; music, 8; applied science,

9. The productive funds amounted to \$592,532.90, and the income for the year to \$30,060.43. The library contained 43,299 volumes. Gifts received during the year were as follows: from the U. S. Government, for maintenance, \$221,000; from the U. S. Government, for a new gymnasium and medical building, \$171,131.37; medical endowment fund, \$95,545.06; miscellaneous, \$19,998.95. The contract was let for the construction of a new medical building. President, Mordecai W. Johnson, S.T.M., D.D.

**HOWE, HERBERT ALONZO.** American astronomer and educator, died at Denver, Colo., November 2. He was born at Brockport, N. Y., Nov. 22, 1858, and graduated from the University of Chicago in 1875 with the degree of A.B., later studying at the University of Cincinnati while a student and assistant at the Cincinnati Observatory, 1875-80. In the latter year he became professor in astronomy in the University of Denver, and in 1891 was made dean of the College of Liberal Arts and director of the Chamberlin Observatory at University Park, Denver. He was a member of many astronomical and other learned societies, and had designed an impersonal micrometer for equatorial telescopes. In addition to contributions to various scientific magazines he wrote: *A Study of the Sky* (1896); and *Elements of Descriptive Astronomy*, (revised 1909).

**HOWLAND, JOHN.** American physician and professor of pediatrics in the Johns Hopkins Medical School, died at London, England, June 20. He was born at New York City, Feb. 3, 1873, and after graduating from Yale in the class of 1894, and from the Medical School of New York University in 1897, he began practice in New York. He was physician at the Willard Parker, Riverside, and St. Vincent's Hospitals, and pathologist for the Foundling Hospital and in 1911 went to Washington University, St. Louis, Mo., as professor of pediatrics. In the following year he was appointed to a similar chair at Johns Hopkins University and became pediatrician in chief at the Johns Hopkins Hospital. He was a member of the American Medical Association, serving on its council of pharmacy and chemistry, and of the American Pediatric Society, and other medical organizations.

**HOWZE, ROBERT LEE.** American army officer, died at Columbus, O., September 19. He was born in Rusk County, Texas, Aug. 22, 1864, and after graduating from Hubbard College in that State in 1883, attended the United States Military Academy, graduating in 1888, and being commissioned second lieutenant in the Sixth Cavalry. He was promoted through the various grades, being made brigadier-general of volunteers June 20, 1901, and brigadier-general, National Army, December, 1917, and major-general in the regular army in December, 1922. He served as major in the Porto Rico provisional regiment of infantry from Oct. 9, 1901 to June 30, 1904, and was commandant of cadets at the United States Military Academy from 1905-09. From 1909-12 he was lieutenant-colonel commanding the Porto Rico Regiment and the Military District of Porto Rico, and transferring to the Eleventh Cavalry he served with that organization until September, 1916, when he was detailed to the General Staff. May 15, 1917, he was made colonel of cavalry, chief of staff of the Tenth Provisional Division and of Cavalry Division, and in June, 1917, he was

assigned as chief of staff to the Northeastern Department. In December, 1917, he was assigned to the command of the Second Cavalry Brigade on the Mexican border, and Aug. 8, 1918, as major-general U. S. A. he was in command of the Thirty-eighth Division and served in the Meuse-Argonne offensive. He commanded the Third Division in the march to the Rhine, and the Army of Occupation in Germany until Aug. 14, 1919, when he returned to the United States. Previously he had been active in the Philippines, and in 1891 was awarded a Congressional Medal of Honor "for gallantry in repulsing attacks of Sioux Indians in South Dakota." For his services in the World War he was awarded the Distinguished Service Medal of the United States Government, and the Croix de Guerre with palm by the French Government, which also made him an Officer of the Legion of Honor.

**HOZUMI, BARON CHINCHO (NOBUSHIGE).** Japanese statesman, jurist and educator, died at Tokio, Japan, April 7. He was born in Uwajima, July 11, 1855, and studied law at the Imperial University at Tokio, also at the Middle Temple, London, England, and at the University of Berlin from 1879-81. He returned to Japan to become professor at the University of Tokio in the reorganization of which he was influential, and shortly afterwards was appointed dean. He was a member of the Japanese House of Peers from 1890-92, helping to draft the Japanese Civil Code. In 1902 he attended the International Conference held in Rome, and in 1915 was raised to the peerage. In 1916 he was made a Privy Councillor. At various times he was president of the Imperial Academy, judge of the Permanent Court of Arbitration at the Hague, and chairman of the Council for the Reform of Laws and Institutions. Besides his legal writing in Japanese on codification and other subjects he wrote in English: *Ancestor Worship and Japanese Law*; and *The New Japanese Civil Codes as Material for the Study of Comparative Jurisprudence*.

**HUNGARY.** A state of Central Europe; formerly a kingdom constituting with Austria the Dual Monarchy of Austria-Hungary. Capital, Budapest.

**AREA AND POPULATION.** Before the war Hungary had an area of 125,009 square miles; area at the time of the census of 1920, 35,875 square miles. Population before the war, according to the census of Dec. 21, 1910, 20,886,487; population at the census of Dec. 31, 1920, 7,980,143; estimated Dec. 31, 1924, 8,274,940. After the census of 1920 was taken an additional area of 36 square miles, with a population of 7000, was awarded to Hungary. Budapest, the capital of the country, had a population at the 1920 census of 928,990.

Other cities with a population of more than 100,000 at the same census were: Szeged, 119,109; and Debrecen, 103,186. The movement of population in 1924 was: Births, 221,462; deaths, 107,671; marriages, 75,060. The population of 1920 was distributed according to religion as follows: Roman Catholics, 5,096,729, or 63.9 per cent; Helvetican Evangelicals, 1,670,144, or 21 per cent; Augsburg Evangelicals, 497,012, or 6.2 per cent; and smaller numbers of Greek Catholics, Greek Orientals, and Unitarians. The Jews numbered 473,310, or 5.9 per cent of the population.

**EDUCATION.** Elementary education is compulsory between the ages of six and 12. In the school year, 1923-24, there were 924 infant schools and permanent foster-homes, with 87,097 infants, and three training colleges for female teachers of infant schools. In the same year there were 6390 elementary schools with 770,234 pupils and 17,415 teachers; 348 primary schools, with 88,176 pupils and 3773 teachers; and six training colleges for teachers in primary schools. For secondary education there were 97 gymnasia, with 1820 teachers and 38,822 pupils; 22 realschulen, with 491 teachers, and 8967 pupils; and 32 secondary schools for girls, with 664 teachers and 9980 pupils. For higher education there are four universities as follows: Budapest, with 321 professors and 5908 students in 1923-24; Szeged, 80 professors and 1032 students; Pécs, 60 professors and 1289 students; and Debrecen, 55 professors and 801 students. There are also many theological schools and a number of technical institutions for higher learning, such as technical high schools, etc.

**PRODUCTION.** Agriculture is the principal industry of Hungary and about two-thirds of the people are engaged in or dependent upon it, and even in average years the crops are sufficient for the home supplies and leave surpluses for export.

The accompanying table from the *Statesman's Year Book* for 1926, shows the acreage and yield of the principal crops of Hungary for 1923-24:

Crop	Area acres	Yield quintals
Wheat .....	3,620,148	14,034,771
Rye .....	1,695,646	5,614,498
Barley .....	1,047,907	3,203,123
Oats .....	734,320	2,280,718
Maize .....	2,479,396	18,828,066
Potatoes .....	620,492	15,351,479
Sugar-beet .....	170,177	12,742,032
Grapes .....	549,225	29,992,783 *

\* Gallons of wine.

For 1925 the maize crop was estimated at 2,412,000 metric tons, potatoes at 1,535,000 tons, and sugar beet, at 1,274,000 tons. In 1925 there were 875,768 horses, 1,920,026 cattle, 1,890,511 sheep, and 2,632,966 pigs. In 1924 the production of coal was 7,169,057 tons. The industries of Hungary are mainly based on agriculture and include milling, distilling, the manufacture of sugar, hemp, flax, etc. The number of manufacturing plants is placed at 2338 and the hands employed at 722,892.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, Hungarian foreign trade in the year 1925, showed a distinct improvement over the preceding five years. Although the trade balance was still unfavorable, it was considerably smaller than in the preceding year, amounting to only \$8,000,000 as compared with \$26,000,000 in 1924, and \$17,000,000 in 1923. The earlier years (1920-1922) each showed an unfavorable balance of more than \$40,000,000. The entire deficit in 1925 occurred during the first half of the year, during which period it amounted to \$12,000,000. The last half of the year, however, showed such continued improvements that the deficit was reduced by \$4,000,000. Imports in 1924 were valued at \$143,000,000, and in 1925 at

\$150,000,000; exports were valued at \$117,000,000, and in 1925 at \$142,000,000. The accompanying table shows the value of Hungary's principal imports in 1924 and 1925:

VALUE OF HUNGARY'S PRINCIPAL IMPORTS,  
1924-25  
[In thousand gold crowns\*]

Commodity	1924	1925
Cotton textiles	98,885.6	89,015.9
Lumber	71,046.1	72,084.6
Wool textiles	62,557.1	48,889.4
Coal	49,233.8	46,375.2
Cotton yarns and threads	33,729.3	29,190.9
Machines and apparatus	31,915.4	29,004.8
Paper and paper goods	16,677.5	24,777.9
Crude metals	12,478.8	18,124.7
Ironware	8,589.7	15,870.5
Leather, prepared	23,067.8	14,657.6
Wool yarns	19,241.4	13,622.5
Mineral oils	13,444.0	13,139.1
Cotton, raw	7,704.4	12,640.9
Knit goods, cotton	8,203.4	10,078.5
Glass and glassware	6,251.7	9,787.9

\* The exchange rate of the Hungarian crown averaged \$0.000017 for 1924 and \$0.000014 for 1925.

Hungarian trade during the first six months of 1926 showed continued expansion, but was accompanied by a trade balance that was still more unfavorable than for the first half of the year 1925.

VALUE OF HUNGARY'S FOREIGN TRADE, BY  
LEADING COMMODITIES  
[In thousands dollars, converted from the gold crown at  
the rate of \$0.2026]

Commodity	1925 (January-June)	1926 (January-June)
<i>Imports</i>		
Lumber	6,202	7,552
Cotton cloth	9,417	7,494
Coal	3,542	4,477
Wool goods	4,967	3,952
Tobacco	1,441	3,464
Cotton thread and yarn	3,750	3,265
Paper	1,849	2,786
Machinery	2,491	2,532
Metals	1,288	2,243
Mineral oil	744	1,490
Leather	1,298	1,445
Hardware	1,455	1,330
Silk and half-silk goods	876	1,029
Wool yarn	1,034	1,005
Cotton, raw	1,082	950
Electrical equipment	466	869
Cotton knit goods	1,097	852
Glass and glassware	797	758
Coffee, green	626	699
All others	23,903	26,149
Total	67,325	74,341
<i>Exports</i>		
Livestock	8,153	8,583
Wheat	2,259	6,765
Flour	9,654	5,376
Eggs	2,661	3,766
Lard and bacon	995	3,224
Corn	2,285	2,961
Rye	1,753	2,088
Meat, fresh and prepared	876	1,814
Sugar	2,255	1,721
Electrical equipment	1,163	1,548
Machinery and apparatus	2,104	1,415
Wool	1,408	1,312
Coal	820	1,209
Poultry, live	979	1,086
Feathers	1,259	1,081
Hardware	914	905
Oats	53	795
Iron, semimanufactured	713	750
Poultry, dressed	362	697
Railway cars	610	649
Cotton cloth	810	585
All others	13,115	12,300
Total	55,201	60,580

Imports during the first half of 1926 were valued at \$74,334,000 and exports at \$60,598,000, whereas imports for the corresponding period of 1925 were valued at \$67,325,000 and exports at \$55,201,000. The unfavorable balance in the 1926 period was thus approximately \$2,610,000 greater than in the 1925 period; but there was a chance that this might be lowered by the last half year's trade, as it was in 1925, by increase in the amount of exports following the harvests.

The condition of the Hungarian milling industry is shown by the export figures for grain and flour. During the first half of 1925 wheat exports aggregated 25,300 tons and flour 113,100 tons; in the 1926 period these exports totaled 108,900 tons for wheat, 52,800 tons for rye, and 70,700 tons for flour. In 1925 flour made up 67 per cent of the total quantity trade in these products, but in the 1926 period flour exports represented only 30.4 per cent of the total. Much of this shift is accounted for by the fact that Hungarian flour lost its market in Poland entirely and was severely restricted in the Czecho-Slovak market by the tariff rates on grain. New export markets, however, were created in Italy and Greece. This curtailment of sales in the near-by flour markets reacted to increase grain exports. The increase in lumber imports is accounted for largely by the renewed building operations of the year, though the importation of firewood also increased, while railway ties fell off considerably. Exceptionally heavy purchases of woolen and cotton cloth in 1925, following the abolition of the import restrictions in that year, caused a decline in the earlier part of 1926. Importations of silk products were accelerated by reduced rates given to France in the agreement concluded during 1925.

**FINANCE.** The budget for the fiscal year 1926-27 as presented by the government to parliament provided for a small surplus. In the administrative section of the budget, revenues are estimated at \$126,768,000 and expenditures at \$126,663,000, leaving a surplus of \$105,000; included in this section are capital expenditures for improvements and new construction, amounting to \$2,499,000. In the section devoted to government enterprises and monopolies, receipts and expenditures are made to balance at \$73,344,000 by including capital expenditures to the amount of \$2,930,000. The expenses of administration show a considerable increase in practically all the ministries; that for service of the public debt is proposed in order to carry out an agreement with the British clearing house to pay £500,000 per annum in place of £200,000 as in the past. There has also been an increase in payments to war invalids, widows, and orphans. The public debt as of Dec. 31, 1924, was \$388,000,000. According to *Commerce Reports*, the Hungarian parliament passed an act on Nov. 21, 1925, creating a new monetary unit of gold to be known as the "pengo." The new currency was expected to go into circulation about November, 1926, and the complete transition from the present system was to be accomplished by Jan. 1, 1927. The strange name of the new unit was selected to prevent its translation into foreign languages and at the same time to increase confidence in it locally. "Pengo" means, literally, "jingler," denoting the return of Hungarian currency to ringing

metal. A brief description of the new currency follows:

One kilo of pure gold will represent 3800 pengo. In minting gold coins, an alloy of nine-tenths gold and one-tenth copper will be used, one kilo of alloy, therefore, being coined into 3420 pengo. The 20-pengo gold coins, 20 millimeters in diameter, will weigh 5.8479531 grams gross, and 5.2631578 grams net. The 10-pengo gold coins, 18 millimeters in diameter, will weigh exactly one-half as much. One pengo will be equal to \$0.1748985, or 0.8631578 Hungarian gold crowns of the old coinage, or to 12,500 paper crowns of the present currency. Since Jan. 1, 1926, the pengo has been quoted in foreign markets as 12,500 paper crowns. The pengo will be divided into 100 "fillers." Silver coins of 1-pengo denomination will be minted in an amount not exceeding 45,000,000 pengo; and 50, 20, 10, 2, and 1 filler pieces in an amount not exceeding 30,000,000 pengos. The silver coin will be an alloy containing 840 parts of silver to 360 parts of copper; for the 50, 20, and 10-filler coins an alloy of 25 parts nickel to 75 parts copper will be used; and for the 2 and 1-filler pieces, an alloy of 95 parts copper, 4 parts tin, and 1 part zinc. Bank notes will be printed in denominations of 1000, 100, 50, 20, and 10 pengos. In accordance with the conditions of the reconstruction loan for Hungary, the Hungarian National Bank enjoys a monopoly of note issue within the State. It already has purchased the entire stock of the Magyar Pénzforgalmazó Rt. (Hungarian Bank Note Printing Corp.), formerly held by the Swiss Orell-Fussli Corp. and the Hungarian Government jointly. The plant is now operated by the bank and is being prepared for the printing of the new pengo notes.

**COMMUNICATIONS.** The length of railways in Hungary on Jan. 1, 1925, was 8569 kilometers, or 5321 miles, of which 1879 miles were owned by the state. It was reported in December, 1926, that a proposal by an English financial group to undertake the electrification of that part of the Hungarian State Railways running from Budapest to Esztergom on the Vienna route, 46 kilometers from Budapest, has been given favorable consideration by the government. It was estimated that 55 electric locomotives would be required for the new service at a cost of 300,000 gold crowns each, or a total of 16,500,000 gold crowns. The additional equipment and generating plant were to cost 260,000,000,000 paper crowns. (The paper crown in 1925 had an average exchange value of \$0.0014.) The terms of the proposed contract provide that preference shall be given to Hungarian industrial products in installing the new equipment. Should the plans be carried to a successful conclusion, it was expected that the work would be begun early in 1927, and that after the completion, work would be undertaken on the electrification of the railway line from Budapest to Hatvan, 69 kilometers.

**GOVERNMENT.** Technically Hungary is a constitutional monarchy with the throne vacant. When the present Horthy rule came into power it was decided to keep the old constitution and let the question of who was to be monarch wait until the people were freed from external pressure. In the meantime Admiral Nicholas Horthy acted as regent. The ministry in 1926, remained virtually the same as when created in June, 1922, and was made up as follows: Premier, Stephen Bethlen; Foreign Affairs, Dr. Louis Walko; Interior, Ivan Rakovsky; Finance, John Bud; Agriculture, John Mayer; Commerce, Dr. Louis Walko; Public Instruction, Kuno Klebelsberg; Justice, Paul de Pesty; National Defense, Charles Csáky; Social Welfare, Joseph Vass.

#### HISTORY

**THE COUNTERFEITING PLOT.** Probably the outstanding event of the year as far as Hungary was concerned was the unearthing of a huge

counterfeiting plot in the country. The main purpose of the scheme was to manufacture a large number of French francs to support the Fascist and anti-Semitic movements which were rampant throughout the country. At the end of 1925 there were several well defined rumors that such a plan was on foot, and when a new French Minister arrived in the country on the 29th of December of that year, he was accompanied by detectives who were charged with clearing up the scandal. On January 3, it was stated that the plates used in the plot were manufactured in the Government Geographical and Geological Institute, the president of which was former Prime Minister Count Paul Teleki. On the next day Prince Ludwig Windisch-Grätz was arrested in connection with the case as was Dr. E. Von Nadossy, Supreme Chief of the State Police. By the first of February, the entire plot was bared and Prince Windisch-Grätz was shown up as the leader and Dr. Nadossy as one of the chief conspirators. The confession of the former stated that he was actuated by desire for revenge against France for the Treaty of Trianon, as well as to restore his personal fortune. More than 25 men were involved and the fact that they were all connected in some way or other with the Royalist movement led to a serious upheaval in Hungarian politics.

Members of the opposition parties in parliament used the scandal as a source of bitter attacks on Premier Bethlen, who, they charged, was cognizant of the plot and very lax in bringing it to light. Strong demands that he resign were met not only with refusal but with veiled threats of military intervention and the establishment of a dictatorship. On February 24 the results of a parliamentary investigation into the affair were published. The majority report absolved the Premier of any wrongdoing, but the minority report accused Bethlen of knowing of the plot as early as 1923 and stated that he was therefore chiefly responsible for it because he did nothing to frustrate it. Similar charges were made against the Ministers of War, Justice, and the Interior. This report gained the more favor with the public, all the more so because of the superficial efforts made by the government investigators in their efforts to get at the bottom of the trouble.

The trial of the 24 conspirators who had been arrested began on May 8. The two leading figures, Windisch-Grätz and Nadossy, admitted their part in the affair and said that they were actuated solely by patriotic motives, that is, by a desire for revenge on France. Even Premier Bethlen was compelled to take the stand and testify. He staunchly denied that he or his government was in any way implicated and stuck to his story despite the earnest efforts of counsel for the defense to break down his testimony. He put in a plea for the defendants on the ground that they were acting from patriotic motives, however wrong these motives and the means taken to gratify them were. The trial ended on May 26, when sentences were imposed. Two defendants were acquitted and some given light terms in prison. Windisch-Grätz and Nadossy were fined 10,000 gold crowns each and were sentenced to four years imprisonment and barred from public office for three years. The counsel for the Prince filed notice of appeal from the verdict, and the



Hungarian press seemed to be perfectly satisfied with the outcome of the trial. Needless to say, in French quarters the decision of the court was roundly condemned because of the comparatively light sentences given to the principal conspirators. Under the decision handed down by the Appellate Court the original sentences were ordered to stand (August 24). An appeal was taken to the Supreme Court, where the final decision of the case was to be made.

In October the Supreme Court rendered a decision upholding the decisions of the lower courts but reducing the punishment of Windisch-Grätz and Nadossy, in the case of the former the court decided on four years imprisonment without hard labor, and in the case of the latter six months was taken from his sentence. Premier Bethlen immediately handed in his resignation to Admiral Horthy in case the Regent was not satisfied with the government because of the manner in which it handled the counterfeiting affair. The Regent almost immediately requested Bethlen to form another cabinet to carry on the government. Bethlen consented and there was in reality no surcease in his control of affairs, the resignation being in the nature of a pure gesture.

**CHANGES IN THE LEGISLATURE.** Early in November a bill was passed by the legislature for the establishment of an upper house of the legislature to take the place of the old Chamber of Magnates which had not been in existence since 1918. On November 16, parliament was dissolved in order to hold elections for the new bicameral legislature. The new upper house was to contain 240 members distributed as follows: About 38 elected representatives of the former nobility; 80 elected for five years by rural and municipal councils; 30 representatives of Catholic, Protestant, and Jewish churches; six ex-officio members; 40 members chosen for 10-year terms by Chambers of Agriculture, Chambers of Commerce, Stock Exchanges, etc.; and a maximum of 40 to be named for life by the head of the government upon recommendation of the ministry. The power of this upper house was curtailed by a provision which made it possible to pass a law even though it withheld its consent.

The new elections were held from December 8 to December 18. Premier Bethlen won an overwhelming though expected victory. The Party of National Union received 169 representatives; Christian Socialists, 35; Party of Racial Defense, 3; Agrarians, 3; Legitimists, 2; Liberals, 11; Social Democrats, 14; and Independents, 8. When summed up it was found that Bethlen controlled all the 245 members with the exception of about 32 members, distributed among the various opposition parties. Charges of intimidation and corruption were made against the government both before and during the elections. Opposition papers interpreted the election as meaning the setting of the star of Horthy and the driving out of power of the peasants, who had originally been the backbone of the Bethlen régime, and the coming into power of the aristocrats and landed gentry, who really ruled through Bethlen with the aid of a supine parliament. For a discussion of the Countess Karolyi case see *UNITED STATES, History*.

**HURRICANES.** See *FLORIDA*; **METEOROLOGY**  
**HUSSEY, WILLIAM JOSEPH.** American astronomer, died suddenly in London, England,

October 28. He was born at Mendon, O., Aug. 10, 1862, and after graduating from the University of Michigan in 1889 with the degree of B.S., served at that institution as instructor in mathematics until 1891 when he became acting director of the Detroit Observatory. In 1892 he became assistant professor of astronomy in Leland Stanford Jr. University, becoming full professor in 1894, and serving until 1896, when he was made astronomer in the Lick Observatory. He served in this capacity until 1905, when he went with the University of Michigan as professor of astronomy and director of the observatory. From 1911-17 he was also professor of astronomy and geodesy at the University of La Plata, Argentina, and director of the National Observatory at La Plata. He served as an expert adviser on observatory sites in Southern California, Arizona, and Australia, to the committee on observatories of the Carnegie Institution in 1903, and in 1905 was in charge of the Lick Observatory eclipse expedition to Egypt.

In 1912 Hussey was head of the La Plata eclipse expedition to Brazil. At the time of his death he was on his way to Bloemfontein, South Africa, to establish a University of Michigan Observatory Station, where he was to remain for a year setting up the Lamont telescope and other equipment. He was the discoverer of 1650 double stars and was awarded the Lalande prize of the French Academy in 1906. He was a foreign associate of the Royal Astronomical Society, honorary member of the Sociedad Astronómica de Mexico, and a member of various American and foreign learned societies. He was the author of: *Logarithmic and Other Mathematical Tables* (1891, 1895); *Mathematical Theories of Planetary Motions* (1892); *Micro-metrical Observations of the Double Stars Discovered at Pulkowa* (vol. V. Lick Observatory publ.) (1901); also many minor contributions to astronomical journals.

**HYDRO-ELECTRIC DEVELOPMENTS.**  
See **WATER POWER**.

**HYDROPHOBIA.** There had been a notable increase of hydrophobia in Europe since the years of the War owing to the impossibility of carrying out preventive measures during the actual period of the War and the reconstructive period. There was a great lack of consensus of opinion and practice among health officers in the various countries and preventive vaccination of dogs had as yet been tested on a large scale only in parts of the United States and in Japan despite the fact that the results appear to be excellent. In the *Weekly Bulletin* of the City of New York Department of Health for December 4 is an article on the prevention of human rabies through treatment of all persons bitten by rabid animals along the customary lines. There had been a marked local increase in the number of rabid dogs reported and only about one-half of those bitten are taking the antirabic cure. Thus in 1926 up to October 31 the number of people bitten was 449, number treated with vaccine 253. In 1925 for the full year but 79 were bitten while 57 took treatment, leaving but 22 unprotected as against 196 during 1926, with two months still to go. The number who develop rabies when unprotected may reach 10 per cent, much depending on the location and other conditions of the bites. European figures give a mortality among the treated which ranges from  $\frac{1}{4}$  to 1 per cent



to between 1 and 2 per cent. Among Americans the figure is usually given as  $\frac{1}{2}$  of 1 per cent.

#### HYDROZOA. See ZOOLOGY.

**ICELAND.** An island state united with Denmark in the person of the king by the act of union of Nov. 30, 1918. Area, variously estimated at from 39,707 to 40,456 square miles; population according to the census of 1920, 94,690; estimated at the end of 1924, 98,370. The capital, Reykjavik, had a population of 20,657 in 1924. All the other towns had populations of less than 3000. The number of foreign-born inhabitants is very small and consists chiefly of Danes and Norwegians. The movement of population in 1924 was: Births, 2473; deaths, 1443; marriages, 552. Although religious freedom is complete, and to be a non-conformist entails no civil disability, there were only 463 dissenters at the census of 1920. Primary instruction is compulsory between the ages of 10 and 14, children up to the age of 10 being privately educated as a rule. According to the latest available statistics there were 209 elementary schools, with 318 teachers and 6485 pupils; several continuation schools; and a university at Reykjavik. Only about one-fourth of one per cent of the area of the island is under cultivation, producing chiefly, hay, potatoes, and turnips. The crops in 1924 were: Hay, 2,570,000 cwt.; potatoes, 50,000 cwt.; and turnips, 17,000 cwt. Livestock figures in the same year were: Horses, 50,800; cattle, 26,000; sheep, 583,000; and goats, 2600. The fisheries were valued at 28,338,000 crowns in 1922, of which the value of codfish was 25,117,000 crowns and herring, 2,443,000 crowns.

The fisheries made possible a favorable balance of trade for the year 1924, when the exports were about 80,000,000 crowns and the imports about 50,000,000 crowns. Government receipts for 1925, which had been estimated at 8,280,100 crowns, actually returned 16,281,000 crowns, with practically every source of revenue showing a yield in excess of estimates. Expenditures, estimated at 8,274,400 crowns, rose to a total of 11,012,000 crowns as a result of higher price levels and larger appropriations to public utilities than originally planned. The net surplus, therefore, actually reached 5,269,000 crowns, as compared with an estimated surplus of 14,700 crowns. The national debt also showed a favorable surplus as of Jan. 1, 1926, totaling 11,800,000 crowns as compared with 18,200,000 crowns on Jan. 1, 1924. The mercantile marine in 1924 consisted of 149 vessels of 24,582 gross tons. There are no railways on the island. Executive power is vested in the king who acts through responsible ministers; and legislative power in the king and Althing or parliament, which consists of 42 members, of whom six are elected for eight years, by proportional representation for the whole country and 36 for four years by universal suffrage. The Althing is divided into two houses, of which the upper has 14 members and the lower 28. The right to vote is possessed by both men and women over the age of 25. King in 1926, Christian X; President of the Council, Minister of Justice and Ecclesiastical Affairs, Jon Magnusson; Minister of Trade and Communications, Magnus Gudmundsson; Minister of Finance, Jon Thorlaksson.

**IDAHO.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 431,866. The estimated popu-

lation on July 1, 1926, was 522,000. The capital is Boise.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Wheat, spring	1926	598,000	14,352,000	\$15,010,000
	1925	520,000	15,080,000	18,850,000
Wheat, winter	1926	447,000	10,281,000	11,103,000
	1925	406,000	10,962,000	13,702,000
Hay, tame	1926	1,025,000	2,768,000 *	24,912,000
	1925	1,032,000	3,385,000 *	28,772,000
Potatoes	1926	91,000	16,198,000	17,038,000
	1925	73,000	14,308,000	20,747,000
Oats	1926	119,000	4,760,000	2,142,000
	1925	170,000	8,330,000	3,582,000
Barley	1926	112,000	4,144,000	2,486,000
	1925	124,000	5,456,000	3,055,000
Corn	1926	66,000	2,706,000	2,435,000
	1925	78,000	3,198,000	2,398,000
Sugar beets	1926	16,000	109,000 *	.....
	1925	36,000	456,000 *	2,858,000
Dry beans	1926	54,000	999,000	2,597,000
	1925	72,000	1,584,000	4,277,000

\* tons.

**MINERAL PRODUCTION.** The chief mineral products of the State in order of their value are lead, silver, zinc, gold and copper. The total value of the product of these five metals for 1925 rose to \$30,662,621, from \$27,049,877 in 1924. The increase was due chiefly to a rise of .7 cents a pound in the estimated value of lead mined in 1925 and to increased total quantity of lead produced for the year. Lead production in 1925 was 253,041,790 pounds; in 1924, 248,950,292 pounds. Silver production in 1925 was 7,743,439 fine ounces; in 1924, 7,793,154 fine ounces. Zinc production rose to 31,237,240 pounds in 1925, from 15,340,498 pounds in 1924. Of gold there were produced 20,886 fine ounces in 1925, as against 26,921 fine ounces in 1924. Copper production totaled 3,297,443 pounds in 1925 and 2,738,824 pounds in 1924. As reckoned in the preliminary estimate of the Bureau of Mines, the State's silver production in 1925 had a value of \$5,318,425. Lead production, the leading contributor to the total value of the State's mineral output, was \$19,916,023 in 1924, and in 1925, reckoned at 8.7 cents per pound, was approximately \$22,015,000. Stone, clay products and phosphate rock were the chief mineral products of the State, outside of the metallic group. The State's entire mineral production in 1924 was valued at \$27,831,623; in 1923, at \$27,105,344.

The value of the gold, silver, copper, lead, and zinc produced from ore mined in 1926 was estimated at about \$30,781,000, as compared with \$30,662,621 in 1925. There was a large increase in lead and zinc, but a decrease in gold, silver, and copper. The mine output of gold was valued at \$254,000. The output of silver decreased to about 7,262,000 ounces in 1926, and the value to \$4,531,000. There was an increase in silver produced from lead-zinc ores. The output of copper decreased to 830,000 pounds in 1926, and the value to \$116,000. The output of lead increased to 265,310,000 pounds in 1926. The value was \$2,021,000. The zinc recovered from ore and concentrate increased to 52,500,000 pounds in 1926, and the value to \$3,859,000. Most of the output was recovered by leaching at Great Falls, Mont.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the

maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925 were \$4,463,749. Their rate per capita was \$9.12, as against \$8.24 in 1924 and \$5.30 in 1917. Their total included \$683,709 for education, apportioned to minor State divisions. Expenses totaling \$321,234 for interest on debt and \$2,643,938 for permanent improvements, added to payments for maintenance and operation of the State departments, made the total of State payments \$7,428,921. For highways was expended the sum of \$2,847,272, of which \$783,134 was for maintenance and \$2,064,138 for construction.

Revenue receipts of the State were \$7,070,296, or \$14.45 per capita. They exceeded by \$2,285,313 the total payments except those for permanent improvements, and were \$358,625 less than the total with these included. Property and special taxes formed 33.9 per cent of the revenue in 1925, as against 38.1 per cent in 1924 and 37.8 per cent in 1917. Their per capita rate was \$4.90 in 1925, \$5.21 in 1924 and \$2.14 in 1917. Earnings of the general departments and compensation for officials' services furnished 5.6 per cent of the 1925 revenue; business and non-business licenses, 20 per cent. License receipts were derived chiefly from taxes on incorporated companies and on sales of gasoline, and from the licensing of motor vehicles.

The net indebtedness of the State on Sept. 30, 1925, was \$5,052,441, or \$10.33 per capita, as against \$10.46 in 1924 and \$5.39 in 1917. The assessed valuation of property subject to State tax was \$478,686,747. The State tax levy was \$2,376,751, or \$4.86 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 2915. There were constructed in 1926 21 miles of new first track.

**EDUCATION.** The improvement of the rural schools was a dominant feature in the year's educational activities. There were drafted laws providing additional rural school supervision, and raising the standard of requirements governing the issue of teachers' certificates. It was the intent that the bills to accomplish these ends, as shaped in conformity with the ideas of the State educational authorities, should come before the Legislature for enactment in 1927. The school population in 1925, the latest year for which figures were available, was 138,969. The enrollment totaled 117,904, of which 95,668 was in common schools and 22,236 in high schools. Expenditure for education in the year 1925 amounted to \$10,047,920. The salaries of teachers averaged \$1072.

**CHARITIES.** The Department of Public Welfare controls divers institutions, the State board of health, vital statistics, dairy and food inspection. Under it are the Northern Idaho Sanatorium for the insane, 125 inmates; the Southern Idaho Mental Hospital, at Blackfoot, not under the Department, has some 200 inmates. The Idaho State Sanitarium at Nampa, a home for the old and feeble minded, is directed by the Department, and had in 1926 some 275 inmates.

**POLITICAL AND OTHER EVENTS.** H. C. Baldridge, the nominee of the Republican party to succeed C. C. Moore as Governor of the State, was elected at the general election of November 2 by a large plurality. Senator Frank R. Gooding, Republican candidate for the U. S.

Senate, was elected for the term beginning Mar. 4, 1927, to succeed himself, defeating H. F. Samuels, Progressive, and former Senator John F. Nugent, Democrat. Other State officers elected in November to take office in January, 1927, were: Lieutenant Governor, Oscar E. Hailey; Secretary of State, Fred E. Lukens; State Auditor, E. G. Gallet; State Treasurer, Byron Deffenbach; Attorney General, Frank L. Stephen; Superintendent of Public Instruction, Mabelle McConnel Lyman; Inspector of Mines, Stewart Campbell. On the Supreme Court bench, Raymond Givens and Herman H. Taylor were to replace Judges McCarthy and Dunn.

**OFFICERS.** Governor, C. C. Moore; Lieutenant-Governor, H. C. Baldridge; Secretary of State, F. A. Jeter; Auditor, Edward G. Gallet; Treasurer, D. F. Banks; Attorney-General, A. H. Conner; Superintendent of Public Instruction, Elizabeth Russum; Inspector of Mines, Stewart Campbell.

**JUDICIARY.** Supreme Court: Chief Justice, Alfred Budge; Associate Judges: Charles P. McCarthy, Robert N. Dunn, T. Bailey Lee, William E. Lee.

**IDAHO, UNIVERSITY OF.** A State institution of higher learning at Moscow, Idaho; founded in 1889. For the fall session of 1926 there was an enrollment of 2109, of whom 1296 were men and 813 women. These, both graduates and undergraduates, were distributed as follows: college of letters and science, 656; college of agriculture, 100; college of engineering, 169; college of law, 33; school of mines, 42; school of forestry, 89; school of education, 352; school of business, 335; special courses, 66; non-resident, 141. In the 1926 summer session the registration totaled 306, of whom 132 were men and 174 women. The income for 1926 amounted to approximately \$1,000,000. The library contained 90,000 volumes. President, Alfred H. Upham, Ph.D.

**IDO.** See INTERNATIONAL LANGUAGE.

**ILLINIUM.** See CHEMISTRY.

**ILLINOIS. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 6,485,280. The estimated population on July 1, 1926, was 7,203,000. The capital is Springfield.

Chicago's population, late in 1926, was estimated on the basis of birth rates and school assessor's statistics as being 3,151,989, an increase of 16.7 per cent over the 1920 official census. The population of the metropolitan area of the city was estimated at 4,100,000.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	9,205,000	312,970,000	\$175,263,000
	1925	9,393,000	394,506,000	228,813,000
Hay, tame	1926	3,206,000	3,865,000	58,640,000
	1925	3,099,000	3,378,000	53,710,000
Wheat, winter	1926	2,163,000	38,934,000	47,499,000
	1925	2,230,000	35,680,000	53,580,000
Wheat, spring	1926	120,000	2,100,000	2,562,000
	1925	60,000	1,200,000	1,740,000
Oats	1926	4,661,000	123,516,000	43,231,000
	1925	4,855,000	157,788,000	55,226,000
Potatoes	1926	68,000	5,440,000	9,520,000
	1925	72,000	4,320,000	10,152,000
Barley	1926	410,000	12,710,000	7,372,000
	1925	315,000	10,895,000	6,549,000
Rye	1926	83,000	1,245,000	1,071,000
	1925	80,000	1,104,000	994,000

\* tons.

**MINERAL PRODUCTION.** The State ranked seventh in respect to the total value of minerals produced in 1924. Its chief mineral product is coal, in which it held the third rank as a producer. Coal production attained a quantity in 1925 of 66,909,359 net tons, as compared with 68,323,281 tons in 1924; and a value in 1925 of \$146,492,000 and in 1924 of \$155,260,000. The blast furnaces of the State produced pig iron to the quantity of 3,600,484 long tons (preliminary summary of the Bureau of Mines) in 1925 and of 2,695,961 tons in 1924; and to the value of \$74,937,781 in 1925 and \$59,299,519 in 1924. The value of clay products, for 1924, was \$33,591,368 and for 1923, \$34,218,987. Coke produced was \$20,187,619 in 1924 and \$30,373,038 in 1923; as to quantity, 2,355,474 short tons in 1924 and 3,187,168 tons in 1923. Petroleum production in 1925, attained 7,856,000 barrels, and in 1924, 8,081,000 barrels; in value, \$15,500,000 in 1925, and \$14,220,000 in 1924. Production of cement was 7,208,000 barrels in 1925, and 6,994,323 barrels in 1924; in value, cement shipments attained \$11,737,000 in 1925, and \$12,026,310 in 1924. There were produced in 1924, 8,640,960 short tons of stone and in 1923, 9,111,830 short tons; in value, \$7,959,934 in 1924 and \$8,358,556 in 1923. Other products each exceeding \$1,000,000 in the value of production in 1924, were oil asphalt, fluorspar, mineral paints and pigments, and sand and gravel. The year's total mineral production attained \$235,796,027 in 1924, as against \$282,760,623 in 1923, with duplications eliminated.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$48,053,496. Their rate per capita was \$6.94, as against \$11.84 in 1924 and \$3.62 in 1917. This decrease for 1925 resulted from lower payments for compensation of soldiers and sailors of the War. The payments in the above named total included \$7,697,368 for education, apportioned to minor State divisions. Expenses totaling \$38,107 for public service enterprises, \$3,704,187 for interest on debt and \$42,045,190 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$93,840,980. For highways was expended the sum of \$39,103,831, of which \$2,114,063 was for maintenance and \$36,989,768 for construction.

Revenue receipts of the State were \$57,441,996, or \$8.30 per capita. They exceeded by \$5,646,206 the total payments except those for permanent improvements, and were \$36,389,984 less than the total with these included. Property and special taxes formed 45.2 per cent of the revenue in 1925, as against 36.1 per cent in 1924 and 74.9 per cent in 1917. Their per capita rate was \$3.75 in 1925, \$2.77 in 1924 and \$3.49 in 1917. Earnings of the general departments and compensation for officials' services furnished 4.9 per cent of the 1925 revenue; business and non-business licenses, 39.2 per cent. License receipts were derived chiefly from taxes on incorporated companies and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$127,437,103, or \$18.41 per capita, as against \$14.91 per capita in 1924 and 33 cents in 1917. The assessed valuation of prop-

erty subject to State tax was \$4,081,848,140. The State tax levy was \$26,532,013, or \$3.83 per capita. Net debt rose in 1925 owing to bond issues of \$23,000,000 for road construction and \$4,500,000 for soldiers' compensation.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 11,994. New construction in 1926 was limited to some 7 miles of first and 6 miles of second track. Six miles of line of the Rock Island system between Preemption and Cable was abandoned.

**EDUCATION.** The State Teachers' Association through its research department formulated findings on the condition of the State's educational system, based on an extensive study. The views expressed in these findings were widely quoted and discussed. The general policy of cultivating public understanding of educational problems was pursued by means of systematic campaigning in the dissemination of publicity on the part of the teachers' organization.

In the school year 1924-1925, the latest for which State statistics were available, Illinois had 5 normal schools with 304 teachers and a total pupil enrollment of 18,176. Counties to the number of 47 reported the existence of 123 consolidated school districts, formed from 450 previous small districts. The consolidated high schools had 214 teachers and 3945 pupils; consolidated elementary schools, 1033 teachers and 32,740 pupils. The average daily attendance in the schools of the State was 1,122,101. Enrollment was 1,343,430; of this total, 233,682 was in high schools and 1,109,748 in elementary grades. High schools in the State numbered 941, of which 673 conducted the full four-year course. In the high schools were engaged 9531 teachers, of whom 3695 were men and 5836 were women. The teachers in all schools numbered 43,865. School expenditure in the State was computed at \$97,133,206 for current expenses and \$25,001,264 for capital outlay. The average salary per annum for all teachers was \$1525.

**CHARITIES AND CORRECTIONS.** An examination of the housing situation in Chicago among the numerous negro and Mexican workers having recently become domiciled in the city was made by Elizabeth A. Hughes, who reported overcrowding to the degree of 28 per cent, as compared with the standard of one and one-half persons to a room. The report declared it to be impossible to build to this standard at a profit to private undertaking and proposed city acquisition of land and state credits to limited dividend companies, coupled with a policy of systematic condemnation and demolition of unfit houses.

The State Department of Public Welfare. Director C. H. Jenkins, had in 1926 the following institutions under its care: In the charitable group were, Elgin State Hospital, Elgin, 2885 inmates at the end of 1926; Kankakee State Hospital, Kankakee, 3986 inmates; Jacksonville State Hospital, Jacksonville, 2905; Anna State Hospital, Anna, 1841; Watertown State Hospital, Watertown, 1934; Peoria State Hospital, Peoria, 2562; Chester State Hospital, Chester, 276; Chicago State Hospital, Chicago, 3367; Alton State Hospital, Alton, 1318; Lincoln State School and Colony, Lincoln, 2991 feeble minded; Dixon State Hospital, Dixon, 2052 epileptics and feeble minded; Illinois Industrial Home for the Blind, Chicago; Illinois Soldiers' and Sailors' Home,

Quincy, 882; Illinois Soldiers' Widows' Home, Wilmington, 105; Illinois Soldiers' Orphans' Home, Normal, 917; Illinois Eye and Ear Infirmary, Chicago, 78; State Training School for Girls, Geneva, 813; St. Charles School for Boys, St. Charles, 1320; and Research and Educational Hospitals, Chicago, 101. In the educational group were the Illinois School for the Deaf, Jacksonville, 436; and Illinois School for the Blind, Jacksonville. In the penal group were the Illinois State Penitentiary, Joliet, 4724; Southern Illinois Penitentiary, Menard, 2135; Women's Prison, Joliet, 136; Illinois State Reformatory, Pontiac, 2401; and Illinois State Farm, Vandalia, 387.

**POLITICAL AND OTHER EVENTS.** At the general election of November 2, a referendum proposal to the effect that the U. S. Congress be requested to pass legislation placing in the hands of the several States the power to define intoxicating liquor and to restrict its use by such State statutes as they saw fit, and removing from the Federal authorities the control vested in them by the Volstead law, was submitted to the voters. This proposal was approved by a majority of about 285,000, largely resulting from the favorable vote in the city of Chicago. Frank L. Smith, Republican candidate, was elected to the United States Senate, defeating George S. Brennan, Democrat, and H. S. Magill, independent. State officers elected November 2 were: Treasurer, Garrett D. Kinney; Superintendent of Public Instruction, Francis G. Blair.

Expenditures of candidates in the Senatorial primary and election campaigns formed a salient feature of State political activities. The primaries were held on April 13, and shortly afterward it was reported that the expenditures for Smith, the winning Republican candidate, and for Senator William B. McKinley, defeated for renomination, had run to unusual amounts. The U. S. Senatorial Campaign Fund Committee visited Chicago and opened hearings on July 26. It was soon brought out that there had been spent in the Smith primary campaign \$253,547; in that of Senator McKinley, \$260,000; and in the Brennan campaign \$20,000. The McKinley campaign manager later put his candidate's expenses at \$481,760. Large gifts to the Smith campaign fund from Samuel Insull and other public utility capitalists were testified to, the amount of the Insull contribution being put at \$125,000. It was later asserted that this contribution was of especial significance because of Smith's service as Illinois Public Service Commissioner. Senator McKinley died on December 7.

The State Supreme Court denied Governor Small a rehearing, February 9, on its opinion holding him accountable for interest withheld on State deposits during his tenure of the office of State Treasurer. He was later sued for payment in civil suits. The escape of seven penitentiary convicts on May 5, who killed a deputy warden and wounded several pursuers, was followed by an investigation of prison conditions leading to the removal from office of J. L. Whitman, Warden of the Joliet prison, followed by the resignation of the head of the State parole board. The transit system of the city of Chicago was affected by the approaching termination of 20-year street car franchises, coming to an end early in 1927. A committee

headed by F. J. Lisman and Co., bankers, proposed in August to take the lines over and reorganize them without receivership, under a new company to receive 20-year franchises and to create a \$350,000,000 first mortgage and provide for construction of subways and for unified transfers. Difficulties over the sharing of net proceeds hindered negotiations, the city having received 55 per cent of net proceeds under old franchises, and the opposed parties each seeking revision of the old rate in its own favor. Difficulties arose between the State authorities and those of Cook County over highway expenditure. Financing of highway improvement in Cook County by State aid was limited to a relatively small total and the county eventually in November assumed the necessary expense, issuing \$15,000,000 in bonds. A proposal of Governor Small's to impose a State gasoline tax to defray highway improvement costs was opposed in December by the Cook County authorities as resting unduly on their portion of the State. The alleged failure of the State Tax Commission and the Cook County Board of Review to impose fully the State capital stock tax led in December to suit on the part of the Chicago Teachers' Federation in the Supreme Court of the State for a writ of mandamus to compel the imposition of this tax. The court denied leave to file this suit, on December 8.

The dispute over the diversion of water from Lake Michigan through the Chicago Drainage Canal led to the filing of briefs in the U. S. Supreme Court by a considerable number of States concerned in the maintenance of the Great Lakes water level or in the Niagara and St. Lawrence water power supply. The court appointed Charles Evans Hughes to take testimony in the action between Wisconsin, Ohio, Pennsylvania and Minnesota on the one side and the Chicago Sanitary District and the State of Illinois on the other. The main points at issue in the testimony were whether the Great Lakes water level had been lowered and whether Chicago diversion had lowered it.

As a move to provide against voting under fictitious names, the election commissioners in Chicago sent out early in the year great numbers of "suspect" notices, mailed to the addresses of registered names. Over 100,000 of the notices were returned for failure of the post to find the addressees. In all, it was reported on March 25, 218,217 names were struck from the voting lists for failure of their bearers to respond. The State law imposing a tax on foreign fire and marine insurance companies, under which Cook County laid claim to some \$25,000,000 of back taxes, was carried before the U. S. Supreme Court from the Illinois Supreme Court by the Hanover Insurance Co. Arguments were presented in October.

Feud violence among lawless elements and attacks on public officials continued throughout the year, at intervals, in Franklin, Williamson and Saline counties, in the southern part of the State. Joseph Adams, mayor of West City, was murdered in December, and subsequently authorities in Williamson and adjoining counties formed a plan of general cooperation against the lawless element. See **CRIME**.

**OFFICERS.** Governor, Len Small; Lieutenant-Governor, Fred E. Sterling; Secretary of State, Louis L. Emmerson; Treasurer, O. N. Custer,

Auditor, Oscar Nelson; Superintendent of Public Instruction, Francis G. Blair; Attorney-General, O. E. Carlstrom.

**JUDICIARY.** Supreme Court: Chief Justice, Clyde E. Stone; Associate Justices: Floyd E. Thompson, Warren W. Duncan, Frank K. Dunn, William M. Farmer, Oscar E. Heard and Frederic R. DeYoung.

**ILLINOIS, UNIVERSITY OF.** A coeducational State institution of higher education at Urbana-Champaign, Ill.; founded in 1867. The enrollment in the autumn of 1926 was 11,810, of whom 8624 were men and 3186 were women, distributed among the several colleges as follows: liberal arts and sciences, 4212; commerce and business administration, 1983; education, 894; engineering, 1656; agriculture, 649; music, 143; law, 315; library, 55; graduate school, 777; medicine, 489; dentistry, 156; pharmacy, 458, 2116 students enrolled for the summer session of 1926, of whom 1228 were men and 888 women. The number of those on the teaching staff above the rank of assistant was 758. In that grade or lower there were 433. The administrative officers totaled 25. The library contained 687,345 volumes and 94,716 pamphlets. The productive funds from Federal endowment were \$649,013, and from private gifts \$103,957. The income for the year was \$6,137,593. The principal buildings under construction in 1926-27 were one for architecture and one for pharmacy, besides additions to the library, gymnasium, and armory. President, David Kinley, Ph.D., LL.D.

**ILLINOIS WATERWAY.** See CANALS.

**ILSLEY, MOST REVEREND EDWARD.** Retired Roman Catholic Archbishop of Birmingham, England, died at Birmingham, December 1. He was born at Stafford, May 11, 1838, and was educated at Sedgley Park and Oscott College, Birmingham. He was ordained in 1861 and after serving for 12 years as assistant priest at Longton became rector of Olton Seminary in 1873, where he served for 10 years. In 1876 he was made canon of the Birmingham Roman Catholic Cathedral, and in 1879-88 he was Bishop of Fesse. In 1888 he became Bishop of Birmingham and in 1911 was made Archbishop of Birmingham, retiring in 1921. He was a governor of the Birmingham University, and president of the Birmingham Catholic Diocesan Schools Association.

**IMMIGRATION.** The second year of the operation of the 1924 Immigration Act in the United States passed with remarkable smoothness. Officials expressed themselves as well satisfied with the restrictive features and confined their suggestions for reform to provisions which would enable immigrants to unite their families on America's side of the water, without however altering materially the annual number of admissions. Progress was reported in getting European countries to agree to American supervision of prospective immigrants, and at the end of 1926, about 90 per cent of the quota immigration was arranged for on the other side under American technical advisers. This reduced very materially the number of rejections at Ellis Island and similar stations. During the year ending June 30, 1926, about 4 in 1000 (or a total of 20,000 persons) were turned back at Ellis Island. Previously 40 or 50 per 1000 was the average in rejected entries.

The Secretary of Labor recommended in his

annual report that not only wives but husbands and dependent fathers and mothers of American citizens be classed as non-quota immigrants, and that the age limit for their children be raised so as to cover all minors, instead of being limited to those 18 years of age or under. He also asked that within the quota limits special preference be given to children and other immediate relatives of aliens resident in the United States; that unused quotas be carried into the subsequent year; and that 5000 be allowed to take care of exceptional instances.

As regards the admission of husbands of American citizens, there was pending in Congress at the close of the year an amendment giving a non-quota status to such persons, this to balance the present provision of the law giving a non-quota status to alien wives of American citizens. With this amendment there was pending a legislative "rider" admitting wives and children of resident aliens to the total number of 35,000. Thanks to the intervention of Senator Wadsworth of New York, the Senate had passed this motion by a vote of 39 to 37, and there seemed every likelihood that the rider and the original amendment would pass the House.

If this rider were passed, it would correct a feature of the Immigration Act which in the opinion of most students of the subject had proved to be needlessly inhumane. When the 1924 law went into effect many thousands of alien husbands found themselves separated from their families, with the quota provision effectively barring any reunion in the United States. Agitation for the softening of the provisions of the quota law was widespread in the East—it was even a factor in the New York gubernatorial election of 1926—but it failed to move Congress. Perhaps the reason for this was the fear that under the guise of humane revision, the restrictive features of the Immigration Act would be nullified. Senator Wadsworth's amendment, by limiting the number of admissible cases to 35,000 and apportioning these among aliens who have declared their intention to become American citizens, was designed to take away the force of the usual objections.

An additional reform recommended by the Secretary of Labor called for the granting of a visa to an entire family, entitling the members not sailing with the father to follow him within a specified time. This reform would make it easier for entire families to establish themselves in the United States, since for economic reasons it is customary for the father to seek to establish himself first before trying to bring over the rest of his family. Under the existing law, he had to take his chances with securing visas for the rest of his family.

The effects of restricted immigration were noticeable in many ways. Commissioner Curran of Ellis Island declared in a speech before the New York State Conference of Charities and Correction that there was a great decrease in the amount of money spent on charities for immigrants and their children. He cited cases of day nurseries which were closing up. Before the Immigration Act he said that about \$50,000,000 a year, or \$1,000,000 a week, were spent on immigrant charities. Now the sum was much less, according to the Commissioner. He did not, however, give any figures showing the decreased expenditures.

The shortage of immigrant labor was reflected in the greater use of Negroes, Mexicans, and Porto Ricans for construction work and other unskilled occupations. It was also reflected in rising construction costs in Eastern cities.

TABLE 1

ALIENS ADMITTED TO THE UNITED STATES DURING THE FISCAL YEARS ENDED JUNE 30, 1925 AND 1926, BY SPECIFIED CLASSES

<i>Classes</i>	<i>Fiscal year, 1925</i>	<i>Fiscal year, 1926</i>
Grand total admitted .....	458,435	496,106
Total admitted under the immigration act of 1924 .....	457,086	496,106
Total nonimmigrants .....	60,203	88,758
Government officials, their families, attendants, servants, and employees .....	1,950	5,666
Temporary visitors for:		
Business .....	14,161	19,951
Pleasure .....	20,865	36,663
In continuous transit through the United States .....	22,697	25,574
To carry on trade under existing treaty .....	230	904
Total nonquota immigrants ....	250,912	249,916
Wives of United States citizens ..	4,171	6,810
Children of United States citizens ..	3,046	4,344
Residents of the United States returning from a visit abroad ..	64,632	83,754
Natives of Canada, Newfoundland, Mexico, Cuba, Haiti, Dominican Republic, Canal Zone, or an independent country of Central or South America ..	175,069	150,299
Their wives .....	623	965
Their children .....	173	190
Ministers of religious denominations ..	694	664
Wives of ministers .....	295	235
Children of ministers .....	486	436
Professors of colleges, academies, seminaries, or universities ..	187	151
Wives of professors .....	49	39
Children of professors .....	25	26
Students .....	1,462	1,020
Veterans of the World War .....	72	72
Wives of veterans .....	3	3
Children of veterans .....	8	8
Total quota immigrants (charged to quota) .....	145,971	157,432

\* Does not include aliens born in nonquota countries who were admitted as Government officials, visitors, transients, returning residents, etc

For the year ending July 30, 1926 a net total of 95,000 quota immigrants from Europe were added to the labor supply. Seven European countries (as compared with nine the previous year) received more emigrants than they sent immigrants into the United States. These countries are Greece, from which 1121 persons were admitted to the United States, and 5164 returned; Italy, 8253 admitted, 19,980 returned; Rumania, 1211 admitted, 1404 returned; Spain, 326 admitted, 2465 returned; Yugoslavia, 1059 admitted, 2342 returned; Finland, 491 admitted, 519 returned; and Portugal, 666 admitted, 2926 returned.

For figures of other countries, see the Statistical Abstract and the accompanying tables.

QUOTA. An interesting and illuminating commentary on the "gerrymander" purpose behind the Immigration Act was provided by the semi-official announcement at the very close of the year that the "national origins" plan would not be put into operation on the date, July 1, 1927, as scheduled in the law. The reason given was that the application of this provision (Section

11, subdivision B) of the 1924 law would have the effect of reducing immigration from the countries of Northern Europe and increasing immigration from Russia and Italy, and that this was contrary to the purposes sought by some of the framers of the Immigration Act.

TABLE 2

SHOWING THE OPERATION OF QUOTA LAW BY COUNTRIES

<i>Country or area of birth</i>	<i>Annual quota</i>	<i>Quota admissions July 1, 1925, to June 30, 1926</i>
All countries .....	164,667	<sup>a</sup> 157,432
Total Europe .....	<sup>b</sup> 161,422	155,118
Albania .....	100	119
Andorra .....	100	1
Austria .....	785	902
Belgium .....	<sup>b</sup> 512	521
Bulgaria .....	100	105
Czechoslovakia .....	3,073	3,159
Danzig, Free City of .....	238	216
Denmark .....	<sup>b</sup> 2,769	2,712
Estonia .....	124	116
Finland .....	471	468
France .....	<sup>b</sup> 3,954	3,718
Germany .....	51,227	50,956
Great Britain and northern Ireland:		
England .....		12,741
Northern Ireland .....		941
Scotland .....	<sup>b</sup> 34,067	14,764
Wales .....		1,336
Greece .....	100	112
Hungary .....	473	563
Iceland .....	100	61
Irish Free State .....	28,567	27,590
Italy .....	<sup>b</sup> 3,845	3,807
Latvia .....	142	137
Liechtenstein .....	100	12
Lithuania .....	344	390
Luxemburg .....	100	95
Monaco .....	100	7
Netherlands .....	<sup>b</sup> 1,648	1,500
Norway .....	6,453	6,095
Poland .....	5,982	6,386
Portugal .....	<sup>b</sup> 503	492
Rumania .....	603	709
Russia .....	<sup>b</sup> 2,248	2,057
San Marino .....	100	78
Spain .....	<sup>b</sup> 131	160
Sweden .....	9,561	9,166
Switzerland .....	2,081	1,910
Turkey in Europe .....	<sup>b</sup> 100	97
Yugoslavia .....	671	589
Other Europe .....	( <sup>b</sup> )	240
Total Asia .....	1,424	935
Afghanistan .....	100	...
Arabia .....	100	7
Armenia .....	124	57
Bhutan .....	100	...
China .....	100	119
India .....	100	98
Iraq (Mesopotamia) .....	100	41
Japan .....	100	20
Muscat .....	100	...
Nepal .....	100	...
Palestine .....	100	113
Persia .....	100	107
Siam .....	100	...
Syria .....	100	83
Turkey in Asia .....	( <sup>b</sup> )	30
Other Asia .....	( <sup>b</sup> )	260
Total Africa .....	1,200	830
Cameroon (British) .....	100	...
Cameroon (French) .....	100	...
Egypt .....	100	98
Ethiopia .....	100	1
Liberia .....	100	6
Morocco .....	100	19
Ruanda and Urundi .....	100	...
South Africa, Union of .....	100	140
South West Africa .....	100	1
Tanganyika .....	100	...
Togoland (British) .....	100	...

TABLE 2  
SHOWING THE OPERATION OF QUOTA LAW BY  
COUNTRIES—Continued

Country or area of birth	Annual quota	Quota admissions July 1, 1925, to June 30, 1926
Togoland (French) .....	100	...
Other Africa .....	(b)	65
<b>Total Pacific .....</b>	<b>621</b>	<b>285</b>
Australia .....	121	153
Nauru .....	100	...
New Zealand .....	100	109
New Guinea .....	100	...
Samoa .....	100	1
Yap .....	100	...
Other Pacific .....	(b)	22

\* Includes aliens to whom visas were issued during the latter part of the fiscal year ended June 30, 1925, and charged to the quota for that year. (Nationality for quota purposes does not always coincide with actual nationality. See sec. 12 of the immigration act of 1924.)

\* Annual quota for colonies, dependencies, or protectorates in Other Europe, Other Asia, Other Africa, Other Pacific, and in America, is included with the annual quota for the European country to which they belong. Quota for Turkey in Asia is included with that for Turkey in Europe.

The system in operation in 1926 (Section 11, subdivision A, of the 1924 law) provided that the annual quota of any nationality should be 2 per cent of the number of foreign born individuals of such nationality resident in Continental United States, as determined by the census of 1890. An added stipulation makes the minimum quota 100. Under this system 164,000 "quota immigrants" are eligible for admission each year.

The "national origins" plan, which was to have superseded the 2 per cent quota, provides for the division of the world into geographical areas and for the basing of admissions on the number of inhabitants in Continental United States in 1920 whose origin by birth or ancestry is attributable to such geographical areas. The total number of quota immigrants, under this plan, was to be 150,000, each nationality or geographical area being entitled to a pro rata share of this total.

Under the law the determination of "national origins" is to be made by the Secretaries of State, Commerce and Labor, and these officers are to report their conclusions to the President. Thereupon the President is to proclaim the quotas so reported.

There was much speculation as to the possibility of compiling accurate statistics of national origins. Certain officers of the Census Bureau declared that there were no figures in existence upon which to base such statistics. But later it appeared that the cabinet officers were able to make a preliminary report of national origins quotas, and that these quotas showed a reduction for such countries as Ireland, Germany, the Scandinavian countries, Holland and Switzerland, and an increase for such countries as Russia, Italy, and England. Thereupon, according to the semi-official statement, President Coolidge asked the secretaries to suspend their labors for the present.

Some doubt was expressed as to whether the President had discretionary power as to the putting into operation of the national origins plan. It was said that he might seek the repeal of this provision of the law.

STATISTICS. The fiscal year 1926 was the second full year covered by the Immigration Act

of 1924, described in the 1924 YEAR BOOK. Comparative figures showing the operation of the Act during the years 1925 and 1926 are therefore available. While the eligible quota figure of 164,667 remained unchanged, it is interesting to note that in 1926 95 per cent of this total, or 157,432, was the number actually admitted under the quota provision. This compares with 145,971, or 89 per cent of the quota total, admitted under this head in the fiscal year 1925.

The total number of alien admissions, both in 1925 and in 1926, was far in excess of the quota total. In 1926, 496,106 persons were admitted to the United States under the immigration laws, as against 457,086 admitted in 1925. Table 1 shows the status of these admitted persons under the law and the comparative figures by classes for the years 1925 and 1926. It will be seen that of the 1926 total of nearly half a million admissions, 88,758 were non-immigrant visitors, and 249,916 were non-quota immigrants. Of this latter total about 60 per cent or over 150,000 were immigrants from the Western Hemisphere, against which no quota restrictions apply, and less than 100,000 were immigrants from quota countries who were specially exempted from the quota restrictions. But as this exempt class included 83,754 former residents of the United States, it will be seen that only 14,000 net exemptions were granted to quota countries, this 14,000 being made up for the most part of wives and children of American citizens.

The operation of the quota law by countries is indicated in Table 2. It will be seen that 155,118 quota immigrants came from European countries and slightly over 2000 quota immigrants were admitted from Asia and from the countries of the Pacific.

As the principal purposes of the quota law were, first, to limit the total of immigration from Europe and Asia, and, second, to restrict, within this total, the immigration from Southern and Eastern Europe, it is interesting to see how these purposes have been realized by the law. Table 3 shows the figures for immigration by specified areas over a number of years. In 1914, 894,258 immigrants were admitted from the countries of Southern and Eastern Europe, and in 1926 only 29,125 were admitted from these countries! From Northern and Western Europe 164,133 immi-

TABLE 3  
IMMIGRANT ALIENS ADMITTED, IN FISCAL  
YEARS SPECIFIED, FROM CERTAIN AREAS

Fiscal year (ended June 30)	Total admitted	Northern and western Europe	Southern and eastern Europe	Per cent of total	
				North- ern and west- ern Europe	South- ern and east- ern Europe
1913....	1,197,892	182,886	872,969	15.3	72.9
1914....	1,218,480	164,133	894,258	13.4	73.4
1915....	326,700	79,200	118,719	24.2	36.3
1916....	298,826	51,055	94,644	17.1	31.7
1917....	295,403	38,500	94,583	13.0	32.0
1918....	110,618	12,946	18,117	11.7	16.4
1919....	141,132	18,039	6,588	12.8	4.7
1920....	430,001	86,998	159,297	20.2	37.1
1921....	805,228	138,551	513,813	17.2	63.8
1922....	309,556	79,437	136,948	25.7	44.2
1923....	522,919	156,429	151,491	29.9	29.0
1924....	706,896	203,346	160,993	28.8	22.8
1925....	294,314	125,248	23,118	42.6	7.9
1926....	804,488	126,437	29,125	41.5	9.6

grants were admitted in 1914, and 126,497 in 1926. The 1926 figures do not include quota-exempt immigrants; but, as we have seen, this class is comparatively small, and its inclusion within the 1926 totals would not materially alter the showing.

TABLE 4  
ALIENS DEBARRED FROM ENTERING THE  
UNITED STATES DURING THE FISCAL  
YEAR 1926, BY CAUSES

<i>Causes</i>	
Insanity, epilepsy .....	61
Other physical conditions .....	207
Loathsome or dangerous contagious disease .....	507
Other physical conditions .....	207
Likely to become a public charge .....	3,596
Professional beggars and vagrants .....	10
Assisted aliens .....	55
Accompanying aliens .....	77
Under 16 years of age (unaccompanied by parent) .....	94
Unable to read (over 16 years of age) .....	682
Contract laborers .....	724
Criminals .....	273
Immoral classes .....	95
Had been deported within one year .....	17
Under section 17 of immigration act of 1924 ..	39
Without proper visa under immigration act of 1924:	
At land border ports .....	11,579
At seaports .....	2,354
All other causes .....	2
Total .....	20,550

Besides the success in limiting immigration numbers, the new Immigration Act has to its credit the decrease in the percentage of rejections at the ports of arrival. In the year 1926 only nine-tenths of 1 per cent of the total applicants at the seaports were rejected. This is against 1.6 per cent in 1925 and 1.7 per cent in 1924. The major part of the rejections, or 79 per cent of the total rejections at the seaports, were on account of lack of proper visa and represented largely stowaways and seamen seeking permanent admissions. Of the applicants for admission who had secured proper visas from American consuls, less than two out of every thousand, or two-tenths of 1 per cent were rejected. Table 4 gives the causes of the rejections.

REGISTRATION OF ALIENS. Table 5 gives the number and the causes of deportations of aliens during the year 1926. The total number of

TABLE 5  
ALIENS DEPORTED FROM THE UNITED STATES  
AFTER LANDING, DURING THE FISCAL  
YEAR 1926

Insanity, epilepsy .....	796
Loathsome or dangerous contagious disease .....	100
Other physical conditions .....	90
Other mental conditions .....	257
Likely to become a public charge .....	887
Professional beggars and vagrants .....	2
Assisted aliens .....	42
Accompanying aliens .....	1
Under 16 years of age (unaccompanied by parent) .....	54
Unable to read (over 16 years of age) .....	494
Contract laborers .....	27
Criminals .....	793
Immoral classes .....	412
Had been deported within one year .....	181
Entered without inspection .....	902
Under Chinese exclusion act .....	178
Under per centum limit act of 1921 (excess quota) .....	536
Under section 17 of immigration act of 1924 ..	256
Without proper visa under immigration act of 1924 .....	4,582
All other causes .....	364
Total .....	10,904

deportations was 10,904, an increase of 1409. It is the greatest number deported in any year since the establishment of the Immigration Service. Of this total 4582 were charged with having entered the United States without proper visa under the Immigration Act and 902 were charged with having entered without inspection.

Agitation for the registration of all aliens now resident in the United States continued during the year. The Secretary of Labor in his annual report renewed the recommendation for registration which he had made in the previous report. The Commissioner of Immigration, however, was firm in his belief that registration was a necessity. "As a protection to those who are legally here and to discourage attempts to gain admission in violation of our statutes," said the Commissioner, "authority and funds should be given to the department to make a country-wide survey and registration of our alien population, and to institute a registration system for newcomers. We can not more than estimate the number who are here unlawfully and who are daily effecting entry surreptitiously by means of false and misleading statements: but with the result of such a survey and registration we could approach Congress with the proper recommendations for the legislative control of the alien problem."

The Commissioner coupled his recommendation for registration with a proposal for legalizing the residence of those aliens who have entered the United States illegally but who are otherwise law-abiding. He proposed examinations before immigrant inspectors and officers

TABLE 6  
CHINESE IMMIGRATION AND EMIGRATION FOR  
FISCAL YEARS 1921 TO 1926

<i>Fiscal year</i>	<i>Immigrant aliens</i>	<i>Emigrant aliens</i>
1921.....	4,017	5,253
1922.....	4,465	6,146
1923.....	4,074	3,788
1924.....	4,670	3,786
1925.....	1,721	3,263
1926.....	1,751	2,989

TABLE 7  
JAPANESE IMMIGRATION AND EMIGRATION  
FOR FISCAL YEARS 1921 TO 1925

<i>Fiscal year</i>	<i>Immigrant aliens</i>	<i>Emigrant aliens</i>
1921.....	7,531	4,352
1922.....	6,361	4,853
1923.....	5,652	2,844
1924.....	8,481	2,120
1925.....	682	1,170
1926.....	654	1,208

of the Public Health Service, thus dispensing with the present legal necessity of departure and reapplication under existing quotas. The Commissioner's proposal was intended for those who entered the country illegally before the Quota Law. Those who have entered the country illegally since the Quota Laws could not meet the legal qualifications for entry except by passing through the quota system. The effect of the two proposals would be to establish complete control over aliens by the Department of Labor, and many publicists and students opposed the plan on just that ground.

HEALTH INSPECTION. During the year 1926, immigration officers and public health surgeons were assigned to the American consulates in



TABLE 8

NET INCREASE OR DECREASE OF POPULATION BY ADMISSIONS AND DEPARTURES OF ALIENS  
FOR THE FISCAL YEAR 1926

Country of last or intended future permanent residence	Aliens admitted			1926 Aliens departed			Increase (+) or decrease (-)
	Immi- grant	Nonim- migrant	Total	Emi- grant	Nonem- grant	Total	
All countries .....	304,488	191,618	496,106	76,992	150,763	227,755	+268,351
Total Europe .....	155,562	36,890	192,452	60,040	85,116	95,156	+ 97,296
Albania .....	158	10	168	314	15	329	- 161
Austria .....	1,102	559	1,661	487	298	785	+ 876
Belgium .....	718	537	1,255	491	463	954	+ 301
Bulgaria .....	175	34	209	88	22	110	+ 99
Czechoslovakia .....	2,953	344	3,297	2,301	645	2,946	+ 351
Danzig, Free City of .....	210	23	233	1	1	2	+ 231
Denmark .....	2,549	605	3,154	691	625	1,316	+ 1,838
Estonia .....	132	26	158	15	15	30	+ 128
Finland .....	491	149	639	519	203	722	- 83
France, including Corsica .....	4,181	3,850	8,031	1,011	2,467	3,478	+ 4,553
Germany .....	50,421	5,096	55,517	3,908	5,264	9,172	+ 46,345
Great Britain and Northern Ireland:							
England .....	10,599	13,342	23,941	4,921	12,929	17,850	+ 6,091
Northern Ireland .....	419	132	551	208	160	368	+ 183
Scotland .....	13,661	1,921	15,582	1,332	1,255	2,587	+ 12,995
Wales .....	1,268	298	1,566	37	91	128	+ 1,438
Greece .....	1,121	183	1,304	5,164	317	5,481	- 4,177
Hungary .....	906	234	1,140	871	217	1,088	+ 52
Irish Free State .....	24,478	822	25,300	851	658	1,509	+ 23,791
Italy, including Sicily and Sardinia .....	8,253	2,451	10,704	19,980	3,042	23,022	- 12,318
Latvia .....	298	32	330	58	32	90	+ 240
Lithuania .....	636	87	723	408	89	497	+ 226
Luxemburg .....	127	33	160	7	31	38	+ 122
Netherlands .....	1,753	1,014	2,767	379	851	1,230	+ 1,537
Norway .....	5,756	1,283	7,039	2,087	1,006	3,093	+ 3,946
Poland .....	7,126	366	7,492	2,881	433	3,314	+ 4,178
Portugal, including Azores, Cape Verde, and Madeira Islands .....	666	131	797	2,926	965	3,891	- 3,094
Rumania .....	1,211	124	1,335	1,404	200	1,604	- 269
Russia .....	1,766	313	2,079	181	233	414	+ 1,665
Spain including Canary and Balearic Islands .....	326	790	1,116	2,465	844	3,309	- 2,193
Sweden .....	8,513	896	9,409	1,150	871	2,021	+ 7,388
Switzerland .....	1,994	831	2,825	486	601	1,087	+ 1,738
Turkey in Europe .....	210	42	252	30	9	39	+ 213
Yugoslavia .....	1,059	286	1,345	2,342	240	2,582	- 1,237
Other Europe <sup>a</sup> .....	326	47	373	46	24	70	+ 303
Total Asia .....	3,413	6,961	10,374	4,931	5,752	10,683	- 309
Armenia .....	16	5	21	43	9	52	- 31
China .....	1,751	4,281	6,032	2,989	3,488	6,477	- 445
India .....	93	351	444	113	196	309	+ 135
Japan .....	654	1,911	2,565	1,208	1,733	2,941	- 376
Palestine .....	250	103	353	173	111	284	+ 69
Persia .....	56	18	74	27	26	53	+ 21
Syria .....	429	104	533	208	62	270	+ 263
Turkey in Asia .....	21	8	29	126	48	174	- 145
Other Asia <sup>b</sup> .....	143	180	323	44	79	123	+ 200
Total America .....	144,393	142,875	287,268	11,485	105,882	117,367	+169,901
Canada .....	91,019	16,635	107,654	2,173	17,458	19,631	+ 88,023
Newfoundland .....	2,349	377	2,726	288	466	749	+ 1,977
Mexico .....	43,316	4,590	47,906	3,198	3,104	6,302	+ 41,604
Cuba .....	2,821	10,507	12,788	1,922	12,619	14,541	- 1,753
Other West Indies .....	941	4,012	4,953	1,917	3,587	5,504	- 551
British Honduras .....	39	117	156	45	98	143	+ 13
Other Central America .....	1,335	2,139	3,474	521	1,854	2,375	+ 1,099
Brazil .....	877	501	1,378	210	412	622	+ 756
Other South America .....	2,230	3,563	5,793	1,215	2,904	4,119	+ 1,674
United States <sup>c</sup> .....	100,413	100,413	100,413	63,378	63,378	63,378	+ 37,035
Other America <sup>d</sup> .....	6	21	27	1	2	3	+ 24
Total others .....	1,120	4,892	6,012	536	4,013	4,549	+ 1,463
Egypt .....	314	107	321	38	41	79	+ 242
Other Africa .....	315	501	816	88	183	271	+ 545
Australia, including Papua, Tasmania, and appertaining islands .....	376	2,936	3,312	257	2,069	2,866	+ 446
New Zealand, including appertaining islands .....	180	1,167	1,347	134	1,102	1,236	+ 111
Other Pacific islands <sup>e</sup> .....	35	181	216	19	78	97	+ 119

<sup>a</sup> Comprises Andorra, Gibraltar, Iceland, Liechtenstein, Malta, Monaco, and San Marino.

<sup>b</sup> Includes Afghanistan, Arabia, Bhutan, Iraq (Mesopotamia), Muscat, Nepal, Siam, Siberia, and "Asia, not specified."

<sup>c</sup> "United States" under nonimmigrants covers aliens returning to this country to resume residence therein after a temporary stay abroad; and under nonimmigrants covers aliens departing for a visit abroad with the intention of returning within one year to renew permanent residence in this country.

<sup>d</sup> Comprises Greenland and the islands of St. Pierre and Miquelon.

<sup>e</sup> Comprises Nauru, New Guinea, Samoa, Yap, and "Pacific islands, not specified."

Belgium, the Netherlands, Poland, Germany, Norway, Denmark and Sweden. Previously this service was available only in the United Kingdom of Great Britain and Ireland. The new assignments were made possible by agreement with the countries involved. They succeeded in cutting down the rejections of immigrants at the ports of entry, as was stated above.

**ORIENTAL IMMIGRATION.** Tables 6 and 7 give the figures for Chinese and Japanese immigration and emigration. In the case of the Chinese it should be borne in mind that a large number are admitted on the grounds of American citizenship. Two thousand three hundred and ninety-six such persons were admitted during the fiscal year 1926. Most of them had their citizenship as children of Chinese who were born in the United States.

**POPULATION INCREASE.** Table 8 gives the net increase or decrease of population by admission and departure of aliens for the fiscal year 1926. It is to be noted that the increase in population due to European immigration was to immigration from the Western Hemisphere only 97,296. The net increase in population due was 169,901, or nearly twice as much.

**IMPORTS.** See articles on various countries.

**IMPORTS. AGRICULTURAL.** See AGRICULTURE.

**INCINERATION.** See GARBAGE AND REFUSE DISPOSAL.

**INCOME TAX.** See TAXATION.

**INDEPENDENT METHODIST CHURCH.** See METHODISTS, WESLEYAN.

**INDIA.** A dominion of Great Britain, consisting of the peninsula of Hindustan and the region to the north, and including in addition to the territory directly governed by British officials, Indian states which are indirectly governed, that is to say, subject to British law. Capital, Delhi.

**AREA AND POPULATION.** The total area, including the Indian states and agencies which are in political relations with the government, according to the census of 1921, was 1,802,629 square miles, of which 1,094,300 square miles were in the British provinces. The total population in 1921 was 318,942,480 as compared with 315,156,396 in 1911. The population of the British provinces in 1921, was 247,003,293 as compared with 243,933,178 in 1911. In 1923 the census commissioner for India estimated the population at about 319,000,000 or a gain of 1.2 per cent over 1911; average density, 177 to the square mile; maximum provincial density, 608 to the square mile in the province of Bengal. Over 90 per cent of the population were classed as rural, only 9½ per cent living in towns of 5000 or more.

The religious enumeration of the total population in 1921 was: Hindus, 216,734,586; Moslems, 68,735,233; Buddhists, 11,571,268; Animistic, 9,774,611; Christians, 4,754,064; Sikhs, 3,238,803; Jains, 1,178,596; Parsis, 101,778; Jews, 21,778. The preponderating languages are Hindi, Bengali, and Telugu. Cities of over 250,000, with their populations in 1921 are: Calcutta (with suburbs), 1,327,547; Bombay, 1,175,914; Madras, 526,911; Hyderabad, 404,187; Rangoon, 341,962; Delhi, 304,420; Lahore, 281,781; and Ahmedabad, 274,007.

**EDUCATION.** According to the latest report of the Bureau of Education of the Indian government, there was an increase of 9113 recognized

institutions of learning and 482,060 students in the fiscal year 1924-25 over the figures for the preceding year. This increase in registration, however, is not as encouraging as it may seem at first glance, since 400,000 of the 482,060 additional students are of primary school status. Allowance must also be made for the normal growth in population. About 15 per cent of the country's total population is of school-going age. The Indian government's expenditures for education in 1924-25, when school and college attendance totaled 9,797,344 students, amounted to \$31,936,610, a sum representing less than \$0.10 for each person of the population. In the United States the annual expenditure is \$16.25 per capita for public education. Notwithstanding sincere and earnest effort, little real advancement has been made in the education of the masses, according to the statistics of the bureau of education. Of the country's vast population it is stated that 90 per cent is illiterate.

**PRODUCTION.** Notwithstanding the great progress made along industrial lines in India during recent years the country's economic structure is still based on agriculture. In all probability this condition will continue for many generations. According to recent estimates, two-thirds of the Indian Empire's 319,000,000 population is directly dependent upon agriculture, and, adding those indirectly supported by the products of the soil, the proportion, no doubt, would be much higher—perhaps nine-tenths. In India the economic status of the farmer has remained stationary for centuries.

Although the great purchasing power of India is centred in its agricultural population, only a small proportion has the means to buy more than the merest necessities. After feeding himself and his family and paying taxes, the average farmer has just enough left to barter at the village for a few tools and a few yards of cloth. According to recent estimates the net per capita annual income of the farmer and members of his family is about \$25, as compared with \$33.33 for the urban worker. The Indian government and the enlightened princes, are seeking to raise the status of the farmer; and the farmer himself, as evidenced by the coöperative movement, is not slow to take advantage of the assistance offered.

According to the United States Bureau of Foreign and Domestic Commerce, India, which is among the largest agricultural producing areas of the world, has shown no marked expansion in its agricultural output during the last 15 years. The area under cultivation of rice increased by approximately 10,000,000 acres. Tea fields increased by 120,000 acres. The areas of several other crops have shown expansion during some years, but taking the average over periods of five years each, there have been no other expansions than the exceptions cited. In yield, rice, tea, cotton, coffee, and rubber show marked increases, owing in most instances to improved methods of agriculture. During 1924-25, both the area under cultivation and the yield of the principal crops show up well in comparison with the preceding five-year period. In virtually all instances there is an increase in the area under cultivation—rice, wheat, and cotton showing the largest gains, while the yields of rice, tea, jute, rubber, and coffee were also considerably larger. The area under culti-

vation in India during recent years is given in the accompanying table:

#### AREA UNDER CULTIVATION IN INDIA [In acres]

Crop	Five-year average		
	1915-16 to 1919-20	1919-20 to 1923-24	Year 1924-25
Rice	79,519,000	80,311,000	81,388,000
Wheat	80,499,000	29,194,600	31,788,000
Sugar cane	2,656,000	2,663,000	2,580,000
Tea	664,000	704,860	716,200
Cotton	21,861,000	21,722,000	26,465,000
Jute	2,631,000	2,290,780	2,770,000
Linseed	3,157,000	3,097,800	3,695,000
Rape and mustard	6,169,000	5,939,800	6,376,000
Sesamum	4,450,000	4,913,800	5,167,000
Groundnut	1,785,000	2,258,200	2,838,000
Indigo	475,000	258,620	111,900
Coffee		124,760	135,600
Rubber		124,260	129,500

The accompanying table gives the yields of crops under cultivation in India:

#### YIELD OF CROPS IN INDIA

Crop	Five-year average		Year 1924-25
	1915-16 to 1919-20	1919-20 to 1923-24	
Rice	32,017,000	30,944,800	31,097,000
Wheat	9,288,000	9,258,400	8,702,000
Sugar cane	2,864,000	2,907,400	2,537,000
Tea	374,265,000	336,730,120	375,255,900
Cotton	4,412,000	4,823,600	6,070,000
Jute	7,992,000	6,488,060	8,062,000
Linseed	434,000	424,200	541,000
Rape and mustard	1,072,000	1,087,600	1,172,000
Sesamum	421,000	454,000	504,000
Groundnut	952,000	1,024,600	1,450,000
Indigo	74,000	48,240	21,700
Coffee		22,688,500	29,318,600
Rubber		12,567,120	15,601,800

A steady increase of the area under irrigation in India is indicated by reports of the Indian Department of Labor and Industries. Comparative figures for the individual provinces are given in the accompanying table:

#### AVERAGE AREA IRRIGATED ANNUALLY IN BRITISH INDIA

Province	Average	
	1918-1921 Acres	1921-1924 Acres
Madras	7,276,257	7,151,988
Bombay Deccan	398,575	428,750
Sind	3,040,020	3,436,321
Bengal	108,618	100,482
United Provinces	3,501,848	2,433,585
Punjab	9,273,009	10,465,404
Burma	1,461,465	1,630,794
Bihar and Orissa	988,368	960,505
Central Provinces	331,551	431,579
Frontier	341,809	390,849
Rajputana	20,947	19,422
Baluchistan	24,833	23,685
Total	26,767,300	27,473,334

An interesting comparison of the acreage of crops matured during 1923-24 by means of government irrigation systems with the total area under cultivation shows that nearly 12 per cent was irrigated. The figures province by province, are as follows:

#### AREA IRRIGATED AND TOTAL AREA UNDER CULTIVATION IN 1923-24

Province	Net area cropped Acres	Area irrigated Acres
Madras	36,424,000	6,891,000
Deccan	39,000,000	418,000
Sind	4,134,000	3,427,000
Bengal	22,806,000	93,000

#### AREA IRRIGATED AND TOTAL AREA UNDER CULTIVATION IN 1923-1924—Continued

Province	Net area cropped Acres	Area irrigated Acres
United Provinces	35,011,000	1,979,000
Punjab	26,731,000	10,207,000
Burma	13,857,000	1,730,000
Bihar and Orissa	24,665,000	954,000
Central Provinces	17,427,000	438,000
Frontier	2,593,000	359,000
Rajputana	281,000	16,000
Baluchistan	286,000	26,000
Total	223,215,000	26,538,000

The raising of livestock is of some importance, the animals raised including sheep, goats, donkeys, horses, mules, oxen, camels, and buffaloes. There is a large production of skins and hides. The forests of India cover 249,504 square miles of which 103,780 are under the direct control of the State Forest Department. The chief in-

dustries are the tea industry, and the weaving of cotton cloth. India is finding it hard, however, to compete with Japan in the latter industry. Others are silk weaving, carpet weaving, metal working, and wood carving. About 12 per cent of the population are engaged in industry.

Mineral resources are rich and varied and include gold, coal, petroleum, lead, mica, manganese, saltpetre, salt, tungsten ore, silver ore, and precious stones. The principal petroleum fields are in Burma and Assam.

COMMERCE. India's overseas trade in 1925 reached the highest value ever attained, notwithstanding a decline in imports from the preceding year. Exports of Indian merchandise increased from 3,690,466,000 rupees in 1924 to 3,959,537,000 in 1925, or about 7 per cent, while imports of private merchandise declined from 2,437,602,000 to 2,261,805,000 rupees, a loss of 7 per cent. Trade in treasure was also of record proportions. Imports and exports of gold and silver, coins, currency notes, and similar items, aggregated 860,000,000 rupees as compared with the next highest figures—680,000,000 during 1923. Imports into Burma, the rice and teak province, increased in value as did its exports, but imports into Bombay, Bengal, and Madras declined, notwithstanding larger shipments by each to overseas markets.

FINANCE. Preliminary figures of the Indian budget for the fiscal year 1926-27 indicated an estimated surplus of 30,500,000 rupees. Important features of the new budget were the absence of new taxes, further reductions in provincial contributions to the central government, and the proposed abolition of the cotton excise duty. Of the estimated surplus of 30,500,000

rupees, 12,500,000 were to be devoted to reducing the provincial contributions as follows:

**INDIAN PROVINCIAL CONTRIBUTIONS BASED UPON ESTIMATED SURPLUS FOR 1926-27\***

Provinces	Contribution	
	1925-26 Rupees	1926-27 Rupees
Madras .....	22,200,000	16,500,000
United Provinces .....	18,400,000	15,100,000
Punjab .....	11,400,000	8,600,000
Burma .....	5,700,000	5,000,000
* Contributions from Provinces not mentioned remain unchanged.		

The balance of the estimated surplus will, perhaps, be extinguished by the permanent abolition of the cotton excise duty recommended by the finance member. Total expenditures budgeted for 1926-27 amounted to 1,303,800,000 rupees, against expected revenues of 1,334,300,000. These figures compare with a revised estimate for the previous fiscal year of 1,300,500,000 for expenditures and 1,313,500,000 for revenues. Although the budget indicated a slight increase in expenditures, military expenses were expected to show a reduction of 13,700,000 rupees, while interest charges were to be reduced by 10,000,000 rupees. No external loans were to be raised during the year, but a domestic issue of 220,000,000 rupees, including 200,000,000 for conversion purposes, was to be ordered. The Indian public debt on Mar. 31, 1925, was 10,137,100,000 rupees, as compared with 9,688,300,000 rupees on Mar. 31, 1924, and 5,512,900,000 rupees on Mar. 31, 1914.

The Indian Currency Commission, appointed in August, 1925, to investigate the monetary system of India and to make recommendations for proposed changes, announced its results on Aug. 6, 1926, simultaneously in London and India. The outstanding features of the report were the advocacy of a gold standard for India and the creation of a distinct central reserve bank and bank of issue. The commission recommended the immediate stabilization of the rupee at the rate of 1s. 6d., and the creation, not later than January, 1929, of a central reserve bank with separate note issue and banking departments, the banking department to hold the reserves of the Bank of India. The proposed reserve bank would have for 25 years the sole right of note issue throughout India, the notes being guaranteed by the state. The present note issue of the Indian government would cease to be legal tender within five years after the inauguration of the new bank. In regard to the gold standard, the commission did not contemplate the minting and circulation of gold coin but the redemption of notes and silver rupees in gold bullion at the fixed rate. The date recommended for the institution of the gold standard was set at not later than January, 1931, two years after the creation of the new bank of issue; but meanwhile the stabilization of the rupee was recommended for immediate adoption. The government postponed legislative action on the suggestions of the commission until February, 1927.

**COMMUNICATIONS.** The total number of vessels entered and cleared in the foreign trade of India in 1924-25 was 8022 of 17,656,072 tons. The railway lines open on Mar. 31, 1925, totaled 38,270 miles, of which 27,325 were Imperial State lines and 4703 Indian State lines. The gross revenue of Indian state-owned railways,

comprising nearly three-fourths of the total mileage of all Indian railways, amounted to \$361,818,182 during the fiscal year 1925-26 and the net revenue to \$131,818,182. On all railways 599,000,000 passengers were carried, an increase of 23,000,000 over the figures for the previous year; and, as a result, passenger earnings increased \$2,545,455. The statistics also show that there was a satisfactory increase (nearly 2,000,000 tons) in freight traffic, but in spite of this, earnings from this source decreased by approximately \$7,272,727. In accordance with the policy of railway extension in the Punjab, the construction of two lines had been sanctioned by the Railway Board. The first was between Lyallpur and Jaranwala, a distance of 22 miles, passing through a rich tract irrigated by the lower Chenab Canal. The other was to connect Rohtak, Gohana, and Patipat, a distance of about 45 miles, forming a direct connection with the Delhi-Ambala line of the North-Western Railway.

**GOVERNMENT.** Executive and legislative power, in India, rests with the governor-general in council. The council consists of no fixed number of members, but at least three of them must have had 10 years service in India and one must be a lawyer of at least 10 years standing. The administration of India in England is under a secretary of state for India, aided by a council appointed by him, of which at least half the members must have been residents of India for 10 years and must not have left India more than five years previous to their appointment. A high commissioner for India in the United Kingdom acts as agent of the governor-general in council, and conducts business assigned by the secretary of state. There is also in India a legislature consisting of the governor-general and two chambers, namely the council of state and the legislative assembly, both constituted under the Montagu-Chelmsford programme. See preceding YEAR BOOKS. The viceroy and governor-general during 1926, was Baron Irwin of Kirby Underdale (appointed in April, 1926). The secretary of state for India was the Earl of Birkenhead (appointed November, 1924). The High Commissioner for India in the United Kingdom was Sir A. C. Chatterjee (appointed in 1925).

**HISTORY.** The year in India was a comparatively quiet one, although the usual dissensions between the Hindus and the Moslems cropped up from time to time and the Swarajist movement was kept alive although Gandhi announced at the beginning of the year that he decided to take a rest for at least a year. This was interpreted as meaning that he was going to retire from politics and permit the movement to go its own way. Lord Reading, who retired during the year as Viceroy and Governor-General, opened the last session of the Legislative Assembly during his term of office on January 17. He complained mildly of the activities of the Nationalists and hoped for a better understanding between them and the British Government in the future. Throughout the meeting of the assembly the government generally was backed up by the Moslems and voted against by the Swarajists and Independents. On March 8 the Swarajist members of the Assembly left that group in a body as a protest against the government's refusal to consider further constitutional reforms at that time. On April 3, Lord Reading

retired and was succeeded by Lord Irwin, who as E. F. L. Wood, was Minister of Agriculture in the British Cabinet.

As noted above more or less serious riots occurred during the year between the Hindus and Moslems. These riots were particularly severe in May and the latter part of the summer and caused considerable damage and some loss of life. The property damage ordinarily took the form of the destruction of temples and mosques, and other places with religious significance.

In the month of December, elections were held throughout India for seats in the National Assembly. The results were rather striking because they foreshadowed the break-up of the Swarajist movement. The members of this group had their representation reduced from 46 to 37, which meant that they lost control of the body, and if they were to continue their opposition to the government they would have to form a coalition with some other group. The results of the election led to the belief that the existing government of India would continue until 1929, when a new survey was to be made to determine whether India was ready for more self-government. On December 29, the Indian National Congress decided to return to the principles of Gandhi and use the boycott and non-coöperation with the British government which were his favorite weapons.

**INDIANA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,930,390. The estimated population on July 1, 1926, was 3,124,000. The capital is Indianapolis.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	4,672,000	170,528,000	\$85,264,000
	1925	4,672,000	203,232,000	111,778,000
Wheat winter	1926	1,697,000	33,940,000	42,086,000
	1925	1,768,000	25,636,000	39,736,000
Wheat, spring	1926	6,000	108,000	130,000
	1925	4,000	64,000	97,000
Hay, tame	1926	2,015,000	2,536,000 *	35,504,000
	1925	2,005,000	1,982,000 *	30,721,000
Oats	1926	2,234,000	67,020,000	23,457,000
	1925	2,138,000	59,864,000	22,150,000
Potatoes	1926	48,000	3,840,000	6,336,000
	1925	50,000	4,150,000	8,964,000
Tobacco	1926	16,700	14,913,000 *	1,491,000
	1925	21,000	18,291,000 *	3,292,000
Rye	1926	145,000	2,102,000	1,787,000
	1925	145,000	1,653,000	1,405,000

\* tons, \* pounds.

**MINERAL PRODUCTION.** The total value of the mineral production of the State in 1924, with duplications eliminated, was \$112,209,075; in 1923, \$130,885,954. The chief products are in the order of their value coal and coke, pig iron, stone and clay products. The coal produced totaled 21,224,066 net tons in 1925 and in 1924, 21,480,213 tons; its value was in 1925, \$42,884,000 and in 1924, \$40,453,000. Coke production was, in 1924, 4,272,435 short tons and in 1923, 5,042,614 tons; it was valued in 1924 at \$30,394,497 and in 1923 at \$46,765,264. Of pig iron there was produced 3,350,747 long tons in 1925 and 2,571,411 long tons in 1924; in value, \$64,807,575 in 1925 and \$52,507,720 in 1924. Production of stone totaled 3,824,440 short tons in 1924 and 3,650,110 short tons in 1923; valued

at \$17,269,407 in 1924 and in 1923 at \$17,692,112. Clay products attained in 1924 a value of \$16,368,139, as against \$15,643,128 in 1923. Petroleum production declined in amount to 825,000 barrels in 1925, from 935,000 barrels in 1924; in value it totaled \$1,700,000 in 1925 and \$1,720,000 in 1924. Sand and gravel, lime, natural gas and oil asphalt were also produced.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925, were \$22,260,591. Their rate per capita was \$7.29, as against \$7.57 in 1924 and \$4.28 in 1917. Their total included \$5,056,716 for education, apportioned to minor State divisions. Expenses totaling \$159,641 for interest on debt and \$13,389,085 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$35,818,917. For highways was expended the sum of \$14,591,445, of which \$4,045,587 was for maintenance and \$10,545,858 for construction.

Revenue receipts of the State were \$40,513,739, or \$13.26 per capita. They exceeded by \$18,093,507 the total payments except those for permanent improvements, and furthermore exceeded by \$4,694,822 the total with these included. This excess was reflected in purchase of investments, payment of debt and cash balances. Property and special taxes formed 40.7 per cent of the revenue in 1925, as against 43.2 per cent in 1924 and 61.1 per cent in 1917. Their per capita rate was \$5.40 in 1925, \$5.34 in 1924 and \$3.10 in 1917. Earnings of the general departments and compensation for officials' services furnished 8.7 per cent of the 1925 revenue; business and non-business licenses, 32.5 per cent. License receipts were derived chiefly from taxes on incorporated companies and on sales of gasoline, and from the licensing of motor vehicles.

The net indebtedness of the State on Sept. 30, 1925, was \$1,674,615, or 55 cents per capita, as against 56 cents in 1924 and 6 cents in 1917. The assessed valuation of property subject to State tax was \$5,271,576,485. The State tax levy was \$14,760,414, or \$4.83 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 7187. No new construction of moment in 1926 was reported.

**EDUCATION.** Efforts of the teaching organizations were concentrated chiefly on the object of procuring the early enactment of a statute giving firmer assurance of tenure of positions to both teachers and superintendents of schools. It was the purpose of the advocates of such a measure to render the teaching organization freer of outside influences liable to interpose in the functioning of the teaching system and to keep the personnel subservient to locally prevalent views and interests. Both the State Teachers' Association and the State Federation of Public School Teachers took part in the endeavor to secure the passage of a tenure law.

The higher State-supported institutions of learning in Indiana underwent an investigation at the hands of a special committee of educational experts from other States, consisting of Floyd W. Reeves, Charles H. Judd, John A. H. Keith, Frank L. McVey and George A. Works. The report of this body, rendered in December, recommended establishment of more

normal schools, centralization of the professional schools now distributed among the two State universities, at Indianapolis, placing the three agricultural schools under one head and, combining their farm lands. Financial support given the State colleges was not found comparable to that rendered elsewhere in the Middle West. Much of the material equipment was judged inadequate. Salaries paid were deemed inadequate to assure retention of staffs of the required standard. Absence of adequate retirement provisions was blamed for a heavy turnover.

The school population of the State in May, 1926, was estimated at 830,611 between the ages of 6 and 21. Enrollment in the public schools of the State in the year 1925-26 was 635,227, kindergartens included; that in public common schools, grades one to eight, was 501,745; that in high schools, 120,204. Current operating expenses of public education for the year amounted to \$49,488,230. Teachers' salaries ran from an average of \$1824 for city high schools to \$927 for rural elementary schools.

**CHARITIES AND CORRECTIONS.** There were on Sept. 30, 1926, 15,769 inmates in the State institutions; in addition, there were 3535 in county poor asylums, 1285 in county jails and 1915 in orphans' homes. The institutional total for State and counties was 22,504. The Board of State Charities, created in 1889, has supervision of prisons, public hospitals and asylums. There were under its supervision in 1925, 20 State charitable and correctional institutions, 92 county poor asylums, 90 county jails, 21 county general hospitals, 100 maternity homes and maternity wards, 62 children's homes and 2700 dependent neglected children placed in private homes. Eight State institutions for mental cases had a population of 8420.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, two United States Senators were chosen. Senator James E. Watson, Republican, whose six-year term was to expire with the close of the 69th congress, was re-elected, for the term beginning Mar. 4, 1927, defeating Albert Stump, the Democratic candidate, by a majority of about 11,500. Senator Arthur R. Robinson, Republican, who went to the Senate when nominated to succeed Samuel M. Ralston, deceased, was elected to succeed himself, for the unexpired balance of the six-year term ending in 1929. Of the Indiana delegation in the existing House of Representatives, consisting of 10 Republicans and three Democrats, all were re-elected to the 70th Congress.

Atty.-Gen. A. L. Gillion of the State opened on October 10, an investigation of the political activities of the Ku Klux Klan (q.v.) His action followed a long sustained effort, conducted by Thomas H. Adams, editor of the *Vincennes Commercial*, acting as chairman of a committee of Republican editors, to effect an investigation of political corruption and of the connections between the Republican State organization and the Ku Klux Klan. It was reported that the committee of the Republican Editorial association had obtained important evidence indicating political control of the State by the former Grand Dragon of the Ku Klux Klan in Indiana, D. C. Stephenson. Stephenson had subsequently to these political activities been found guilty of the murder of a woman in a bomb assassination in 1925 connected with a political feud,

and had been sentenced to life imprisonment. A delegation of citizens visited Stephenson in the State penitentiary at Michigan City, October 23, and sought to obtain from him admissions as to his acts of control over State politicians and office holders. Stephenson refused to answer their questions.

An ordinance passed in March by the council of the city of Indianapolis provided in effect for the segregation of persons of negro race in areas set apart for their residence. Colored persons were forbidden to occupy premises in what were denominated as white neighborhoods, even in cases where the intending colored occupants were the owners of the premises. A reciprocal regulation applied to the presence of whites in colored neighborhoods. Judge Chamberlin of the Marion circuit court held in December, rendering judgment for a negro litigant, that the ordinance deprived property owners of rights conferred by the U. S. Constitution, and was void.

The Marion County grand jury conducted an extended investigation of political conditions, based on the allegations of Thomas H. Adams, above mentioned, as to Ku Klux Klan control. It found no indictments but, December 27, recommended further investigation. Similar Grand jury proceedings were held at Evansville. A merger of Indianapolis electric utilities, the Indianapolis Light and Heat Co. and Merchants' Light and Heat Co., on the basis of a \$55,000,000 valuation was contemplated, but was opposed by the city corporation counsel, who sought an injunction to prevent the necessary hearing by the State public service commission, and named Stephenson (see above) as a defendant, upon the theory that the latter had had a part in the selection of public service commissioners.

**OFFICERS.** Governor, Ed Jackson; Lieutenant-Governor, F. H. Van Orman; Secretary of State, F. E. Schortemeier; Treasurer, B. H. Wibahn; Auditor, L. S. Bowman; Attorney-General, A. L. Gilliom; Superintendent of Public Instruction, Benjamin J. Burris.

**JUDICIARY.** Supreme Court: Julius C. Travis, David A. Meyers, Louis B. Ewbank, B. M. Willoughby, and Fred C. Gause.

**INDIANA, UNIVERSITY OF.** A coeducational institution of higher education at Bloomington, Ind.; founded in 1820. For the first semester of the academic year 1926-27 the registration aggregated 4162 students, of whom 2472 were men and 1690 were women. These were distributed as follows: arts and sciences, 2478; graduate school, 176; law, 96; commerce and finance, 155; music, 91; education, 265; medicine, 403; dentistry, 307; nurses training, 154; social service, 37. The faculty had 305 members. The endowment funds amounted to \$774,778.67, and the total income for the year, from state and private sources, was \$2,880,775.71. On June 1, 1925, Indiana Dental College was purchased by the university and in 1926 the four-year course as given at that time was changed to a five-year course. Construction of a wing to the Library Building, costing \$225,000, was completed in 1926. An additional appropriation of \$100,000 was given for library equipment. The library contained 183,500 volumes. President, William Lowe Bryan, Ph.D.

**INDIANS.** In the annual report of the U. S. Commissioner of the Bureau of Indian Affairs for the fiscal year 1925-6 attention was called

to a wide reorganization of the health, educational, and industrial activities and general field administration of Indian affairs as the principal accomplishment of the year. In this reorganization the field was divided into nine districts, each under the immediate supervision of a district superintendent. There was also a general superintendent with headquarters at Washington, and to this position H. B. Peairs was assigned.

**HEALTH.** During the year the medical service of the Indian Bureau was placed in charge of a United States Public Health Service officer, Dr. Marshall C. Guthrie, and the field service divided into districts with a Public Health Service medical officer at the head of each district. The district medical directors were to make inspections of Indian schools, hospitals, sanatoriums, and health features, study and report upon standardized methods of procedure and facilities, coordinate medical and sanitary activities by means of conferences, investigate and adjust controversies, report on matters affecting the Indian medical service, promote cordial relations with State and local public health organizations, and maintain offices as centres for Indian medical service activities. Provision was made for the services of an epidemiologist and of a physician specially qualified in tuberculosis and trachoma. It was also planned to increase the number of physicians and nurses engaged in the eradication of trachoma, the number of field dentists for reservation and school work, and the number of nurses who are specially trained for public-health work.

In 1926 the Bureau of Indian Affairs maintained health activities in 24 States, special attention being given to the prevention of disease. There were no unusually severe epidemics, and a successful campaign was waged during the early part of the year for more thorough vaccination against small pox. During 1926 extensive campaigns were conducted to combat trachoma and tuberculosis existing on the reservations, traveling specialists visiting the various reservations, where clinics were held for the benefit of the Indians.

Progress in combating tuberculosis included: successful operation of the new sanatorium school with a capacity of 100 beds at Shawnee, Okla.; the addition of a new dormitory at the Fort Lapwai Sanatorium, and the appropriation of funds by Congress for an additional dormitory and hospital building to be erected in 1927; the conversion of the boarding-school at Pyramid Lake, Nev., into a sanatorium school with a capacity for 80 patients. Trachoma work was expanded especially in the Southwest, two physicians and two nurses having been added in this district. Of 14,756 Indians examined for trachoma 4479 cases were found, 1938 of which were operated upon and 2541 treated without operation. During the year the construction of a hospital at the Klamath Agency, Ore., was begun, and a hospital on the Fort Peck Reservation at Poplar, Mont., was nearing completion. Health education was stressed in the Indian schools, the children being given courses of instruction in sanitation and preventive health measures.

**EDUCATION.** Nearly all the schools conducted by the Federal Government for the Indians were filled to capacity with 24,591 Indian children

in attendance. In accordance with the Bureau's policy favoring attendance of Indian children in State public schools, there were received in public schools 37,830. In addition to those enrolled in mission or private schools, the total enrollment in all schools for the year was 71,284, the Indian population of school age being 84,553. Tuition payments for Indian children in the public schools amounted to over \$311,000 for the year. Extension of the grades throughout the various Indian schools continued, senior high school grades being added to the Government schools at Albuquerque, New Mexico; Chillico, Oklahoma; and Salem, Oregon. Elementary grades at many of the reservation and day schools were also increased.

**LAND INTERESTS.** During the year 2592 allotments of land were made to individual Indians, embracing 13,177 acres within various reservations and 71 allotments to Indians on the public domain comprising 9783 acres. There were 205,953 acres of Indian lands leased for oil and gas mining purposes, being an increase of about 40 per cent over the acreage leased during the prior year. Within the Osage Reservation, Oklahoma, 45,874 acres were leased, making a total of 556,662 acres under lease for oil within that reservation. Indians other than the Osage and Five Civilized Tribes received an income from oil and gas leases of more than \$1,000,000. The Osage Tribe received from rentals and royalties a revenue of \$10,487,943. Leases of the Five Civilized Tribes, Oklahoma, produced an income of approximately \$4,425,213. The gross oil production on Indian lands for the year was 41,907,021 barrels.

**PROPERTY.** The value of Indian property, individual and tribal, was reported on June 30, 1926 as \$1,693,844,806. This total included \$1,033,947,224, the value of oil, gas, and other mineral resources within the Indian lands. Individual Indians owned land, exclusive of minerals and timber, to the amount of \$345,834,214, and land in tribal possession amounted to \$79,911,556.

**INDUSTRIAL AND SOCIAL PROGRESS.** The gradual improvement during the year in the livestock industry throughout the country redounded to the benefit of the Indians as well as others. The sheep industry was growing in many sections of the Indian country and was found to be an important factor in establishing home ties. Unusual interest shown by the Indians in increasing their cultivated acreage and developing better conditions generally was attributed largely to the assistance derived from the use of reimbursable funds, which are to the Indians what farm and bank loans are to the whites. There was a demand for Indian labor with adequate wages in land reclamation, railroading, agriculture, logging, nutting, fishing, driving taxicabs, as automobile mechanics, and in other fields. Graduates of the Indian schools secured employment in the mechanical trades, and as teachers, nurses, clerks, and home makers. These opportunities were accepted by the Indians in 1926 in larger measure than ever before. Annuity and per capita payments were made to Indians during the year to the amount of \$33,175,000.

**POPULATION.** On June 30, 1926, the number of Indians in the United States, not counting those of Alaska, was estimated from agency reports to be 349,876, an increase of 281 over

1925. There were 120,487 Indians in Oklahoma, or more than one-third of the entire number in the country. Arizona, with 44,729, ranked second. The five civilized tribes, the Choctaws, Cherokees, Creeks, Seminoles, and Chickasaws, whose tribal affairs were being closed, numbered 101,506.

**INDO-CHINA**, also known as **FARTHER INDIA**. The southeastern peninsula of Asia including the following divisions: Burma, politically attached to British India; Siam, a self-governing monarchy; French Indo-China, comprising Cambodia, Annam, Cochinchina, Laos, and Tongking; the Federated Malay States, a British protectorate; the Straits Settlements, a British colony; and the Malay States of Johore, Kedah, Kelantan, Perlis, and Trengganu. See the articles on **BURMA**, **FRENCH INDU-CHINA**, **SIAM**, and the other principal states previously mentioned.

**INFANT FEEDING**. See **FOOD AND NUTRITION**.

**INFANTILE PARALYSIS**. In the great majority of cases this disease has spread without the least inkling as to the nature of the mechanism, and in the average outbreak it is possible to exclude most of the ordinary modes of contagion, such as water or insect transmission. On the other hand the mode of spreading is now and then palpably evident although this leads to nothing definite, for it at once becomes evident that this kind of transmission is not the rule. In a small outbreak at Cortland, N. Y., described in detail by Knapp and two associates in the *Journal of the American Medical Association* for August 28, eight patients, who made up the great majority of the victims, had all drunk milk from the same dairy and it was established that a boy who worked at the latter had also developed the disease. To offset this, however, we find that most of the patrons of this dairy escaped the disease, not only before and after this episode but after having drunk of the supposedly infectious milk. An analysis of the situation appears to show that a certain small lot of the milk became accidentally infected somewhere between milking and distribution and that of the children and young people who drank this milk some were infected, older individuals having a natural immunity from the disease. One of the victims had taken but one drink of this milk.

About two months before this outbreak there had been a similar episode in Cortland in which the milk supply could not be accused nor was it possible to trace any connection between the two outbreaks. The city has a population of 15,000, so that it is quite possible for outbreaks to occur independently of one another.

Nothing is more well attested than the independence of the great majority of outbreaks of infantile paralysis of the milk and water supplies. As far as known but one other outbreak which suggests a contaminated milk supply is on record, observed by Dr. Dingman in 1916. It is almost certain, nevertheless, that the virus of the disease may be transmitted by dairy milk under certain unknown conditions.

**INFANTRY**. See **MILITARY PROGRESS**.

**INFLUENZA**. Of recent years health officers and epidemiologists have become addicted to forecasting the recurrences of outbreaks of this disease—whether it will recur at all, the prob-

able months of its reappearance, the severity of the type, etc. It has been learned that the so-called seasonal influenza—as distinguished from the pandemics—cannot well be dissociated from the other seasonal diseases of the respiratory apparatus and especially acute bronchitis. In 1919, Brownlee demonstrated the existence of a law which works out for limited observation periods and according to which influenza will reappear at intervals of 33 weeks, provided that the 33rd week does not fall between June and December; in which case reappearance is delayed to the 66th or 99th week. In the *Boston Medical and Surgical Journal* for August 26, Drs. Lombard and Doering make many computations as to the likelihood of the next outbreak. They have discussed another law according to which an outbreak in the late spring might mean a second and more severe epidemic early in the autumn; this held good in the pandemic year 1918, but they would modify this by making the second epidemic anywhere during the autumn and winter and leave out the question of severity. This law is more in harmony with that of Brownlee mentioned above.

**INJUNCTION PROCEEDINGS**. See **LABOR**, **AMERICAN FEDERATION OF**.

**INNESS**, GEORGE, JR. American animal and landscape painter, died at Cragmoor, N. Y., July 27. He was born in Paris, France, Jan. 5, 1854, the son of George Inness who was one of the greatest of the early American landscape painters, and studied with his father in Rome, 1870-74, and for a few months with Bonnat in Paris. He later shared his father's studio in New York, but from 1895-99 he had a studio in Paris, and exhibited annually at the Salon, where he received honorable mention in 1896, and a gold medal in 1900. He was elected a member of the National Academy in 1899, and in 1902 an officer of the Académie des Beaux Arts in Paris. In 1913 he became connected with the *Century Magazine* in which his work frequently appeared. Among his paintings, his "Shepherd and Sheep" and "The First Snow at Cragmoor" hang in the Metropolitan Museum of Art, New York City. Among his animal pictures, the "Monarch of the Farm," "Surf Horse," and the "Mother of the Herd" are notable, while such landscapes as "The Coming Storm," and "Morning on the River" are considered to resemble his father's work. An allegorical painting, "The Only Hope," shown before the Chamber of Commerce in New York City provoked considerable discussion on account of its religious feeling, and was one of a series of spiritual landscapes which were painted subsequent to the World War. He was the author of: *Art, Life, and Letters of George Inness* (1917).

**INORGANIC CHEMISTRY**. See **CHEMISTRY**, *Inorganic Chemistry*.

**INSANITY**. Dr. G. M. Robertson's Maudsley Lecture on the Prevention of Insanity appeared in the *British Medical Journal* for July 24. Despite the title there is relatively little to be said under prevention, but the lecturer gave a concise up-to-date summary of the general subject of insanity. In childhood years or up to the age of 15, insanity is negligible in amount. Psychoses follow closely the developmental periods after that age and we may divide them into hereditary, acquired and involutional forms. The first named element is of the



greatest significance although instead of hereditary the term endogenous is preferable as less confusing. This form flourishes in adolescence and up to middle life in two quite distinct expressions. Dementia precox, as the name implies, is a psychosis of adolescence and early adult life of a decidedly malignant type, for but 15 per cent recover and the balance must have custodial care. Manic-depressive insanity occurs relatively later in life and is on the whole benign, most victims recovering although prone to recurrence. Acquired insanity is restricted largely to the alcoholic and syphilitic psychoses, the latter summed up chiefly as paralytic dementia or paresis. It must not be forgotten that many cases of alcoholic insanity are symptomatic, the patients in reality suffering from one of the endogenous forms.

The involutional psychoses are seen in old age and comprise the ordinary senile mental break-down, other cases being due to degeneration of the cerebral arteries. Here we may see cases supervene precociously at times. Concerning the problem of prophylaxis we can only make use of formula. To prevent hereditary forms the remedy is eugenics. The ancestry in many cases may show no taint, although there should be a latent strain of insanity somewhere. Eugenics need not be so drastic as to forbid parenthood to sound members of tainted families but it ought to be made possible for such strains to intermarry only with the untainted and experience shows that in time the taint can be bred out of the stock. Another formula is proper mental hygiene of childhood and adolescence which is a wide and comprehensive subject. It is possible in theory to reduce the amount of alcoholic and syphilitic insanity while as for the involutional psychoses a proper hygiene of middle life must be associated with prevention. The lecturer was an optimist on the subject of increase of insanity and states that as far as Scotland is concerned a slight reduction in the total commitments is apparent.

In recent years, especially through the development of psychoanalysis, the view has gained ground that insanity is essentially a regression to an archaic stage of mental development, which is also evident in dreams, in early childhood and in the mind of the most primitive savages. Since a drug debauch has been visualized as "insanity in miniature" a new subject has arisen under the designation "pharmacopsychology." Two Germans, Jöel and Frankel, (*Klinische Wochenschrift*, September 10) announce that they are in the midst of a study of five intoxicants—ether, cocaine, mescalin, hashish and kava kava—in the course of which one takes the drug and keeps track of his subjective experience while the other checks up objectively. They report first on experiments with hashish. The ego and consciousness are swamped with a succession of ideas, images, sensations and emotions, all essentially foreign to the personality, with great disturbance of time and space relations and the reality sense. Abstract-logical thinking vanishes and gives place to a mere series of mental pictures. The subject may believe himself dominated by alien forces and the complex ego or personality is built down to a primitive stage. The relationship of this mental state to the insanities is obvious while it throws light on primitive mentality, myths, magic, etc.

**INSECTICIDES.** See ENTOMOLOGY, ECONOMIC.

**INSECTS.** See ENTOMOLOGY, ECONOMIC; ZOOLOGY.

**INSTITUTE OF INTERNATIONAL LAW.** See INTERNATIONAL LAW.

**INSTITUTE OF POLITICS.** See POLITICS, INSTITUTE OF.

**INSTRUMENTAL MUSIC.** See MUSIC.

**INSULIN.** See CHEMISTRY, INDUSTRIAL; CHEMISTRY under *Biochemistry*.

**INSURANCE.** Generally speaking, insurance again enjoyed a good year in 1926. In almost every branch the volume of business transacted was larger than ever before. In several branches of the business the rates were too low and the losses high, with the result that little, if any, underwriting profit was made. However, there was reason to believe that this condition would improve gradually. The rise in market value of securities again added millions to the assets and surpluses of insurance companies, enabling them to make a fine showing in annual statements even though their operations resulted in only a small underwriting profit or in an actual loss.

The year witnessed the organization of a number of new insurance companies. Some of them were small concerns which probably would not last long. Several were launched with large resources and fair prospects of becoming great institutions. In this latter class were four or five casualty and surety companies, which were subsidiaries or "running mates" of strong, established fire insurance companies.

Stockholders of many companies paid in additional capital and surplus during the year. In one notable instance this was imperative to save a company which had become financially weakened through errors in management. In a few cases the growth of the business made it wise to increase the capital and surplus to maintain a proper relation to the liability assumed or to enable them to extend still further. In a number of instances, however, addition to capital was merely a means of making better returns to stockholders. With the book and market values of a company's stock several times the par value because of the very large surplus which had been accumulated, stockholders were permitted to subscribe for new stock at par or twice par. The number of companies which declared stock dividends was somewhat larger than usual.

It is generally considered unwise for insurance companies to pay a very high rate of dividends, as this invites attack from that part of the public which insists that insurance rates are too high, and also gives promoters more material with which to induce the public to buy stock in new concerns without strong backing or capable management. Hence a company which has husbanded its resources and conducted its business with more than ordinary ability and accumulated large assets on which the interest earnings alone would pay a very high rate of dividend on the capital, increases capital occasionally so that larger distributions of surplus may be made to stockholders without unduly increasing the dividend rate.

The stock of a number of leading companies declined on various markets during the year. This was due in most instances to their having risen so high in 1925 that returns from in-

vestment in them at such prices were very low. Stocks of other companies of similar standing, which had not been bid up too high at an earlier date, advanced in price.

The work of fire and accident prevention continued and a larger portion of the public showed a marked interest in these activities. The contest in fire waste reduction being conducted every year by local chambers of commerce under the auspices of the Chamber of Commerce of the United States had created interest among influential business men. Various civic, business and social organizations and the public schools are exerting much influence in the same direction. Efforts were to be directed in 1927 to secure the enactment of more effective arson laws. (See FIRE PROTECTION.) Employers' organizations, the National Safety Council, automobile manufacturers and others are making strong efforts to reduce the number of accidents in shops, on the streets and elsewhere.

While the increase in the amount of life insurance written was not so spectacular as in several previous years, there still was a substantial increase. The amount of new insurance written by legal reserve companies has been estimated at \$16,300,000,000, and the total insurance in force in such companies at \$80,000,000,000. This does not include fraternal and assessment insurance. A very material factor in this tremendous growth was group insurance, which had increased by leaps and bounds. First sold almost entirely on a plan whereby employers paid the entire cost, group life insurance was being sold largely on plans under which employers and employees contributed jointly to the cost. A large amount also was being purchased by employees, already insured under group policies, who desired to add to their protection at their own expense.

A considerable factor in the growth of life insurance is its increased use for purposes other than the protection of the assured's family. Some of these additional uses are insurance of "key men" in corporations for the protection of the corporations, insurance of partners for the protection of the firm, life insurance to pay inheritance taxes, to endow colleges, to leave bequests to charitable and religious institutions and endowment insurance to protect issues of bonds and eventually to liquidate them. Although the mortality experience was not quite so favorable in 1926 as in 1925, it still was very good. By reason of this fact and the excellent earnings on their investments, mutual life insurance companies were able to maintain their scales of dividends to policy-holders and in some cases to increase them.

The activities of the various agencies giving instruction in life insurance increased rather than diminished during the year. Courses in colleges and in company and agency schools have removed the excuse for men and women entering the life insurance business unprepared. This influenced the amount of life insurance sold and also its persistency after it had been sold. A development of importance was the growing coöperation between banks and trust companies on the one hand and life insurance companies on the other. To assist the small buyer of life insurance a number of banks now accept stipulated deposits to create a fund from which the bank pays the assured's life insurance premiums and accumulates an amount the interest on

which will eventually pay these premiums. A large amount of life insurance was being sold, payable to trust companies to be distributed by them to beneficiaries as directed in the deed of trust, thus preventing beneficiaries by poor investments or extravagance from dissipating the proceeds of life insurance within a short time.

The growing practice among life insurance companies of providing in their policies that in event of the permanent total disability of the assured payment of premiums shall cease and the insurance company shall pay the assured a fixed monthly income, and also providing for payment of twice the amount of the policy in event of the accidental death of the assured, was raising some problems the seriousness of which cannot be accurately foretold.

The premium income derived from fire insurance in 1926 increased somewhat over that of 1925. The expenses of the business continued high. Losses continued heavy in the first part of the year, then decreased to a marked degree but rose again in November and were very heavy in December. While the companies generally received more in premiums than they paid out in losses and expenses, the increase in their liability for premiums still unearned at the end of the year made it doubtful whether they actually made any underwriting profit. This point was not likely to be definitely settled until annual statements had been filed and tabulated. The increased interest earnings and the rise in values of securities gave the companies a large investment profit, however.

In constructive work 1926 was the best year fire insurance has seen in a long period. The bad underwriting results in 1925 and other years since 1920 forced reforms. Companies became much more careful in their selection of risks, reduced excessive lines, made a closer inquiry into the moral and financial standing of assured, had risks more carefully inspected, reduced their acceptances of risks in unprofitable classes, adjusted losses more closely and became more insistent upon the prompt payment of premiums.

In the Middle States and New England, companies writing over 90 per cent of the fire insurance formed the Eastern Underwriters' Association to take general control of practices and rates, put a stop to payment of excessive commissions to agents at certain points and otherwise improve conditions. It began to function Jan. 1, 1927. Fire underwriters early in 1926 became almost unanimously of the opinion that rates are too low. Some increases in rates were made in Massachusetts, the Southern States and a few other sections. Fire rates, however, are so largely under State control that advances cannot be made offhand. An attempt to advance rates in Kentucky, where companies have lost millions in the past few years, led to a suit in the federal courts, as the State authorities refused to sanction an increase.

The fire insurance companies were engaged in considerable litigation in 1926. In the United States Supreme Court they won the very important Illinois tax case, in which municipalities sought to collect from the companies additional taxes for periods running back in some instances over a half a century. The companies of other States and countries operating in Illinois had paid taxes on the same basis as

Illinois companies, but it was discovered that an old law provided for their taxation on a higher basis. That law was declared unconstitutional. The decision saved the companies many millions of dollars. Insurance companies also won two important suits arising in New Mexico, growing out of laws restricting the number of agents they might appoint in one locality and attempting to prevent their paying commissions to non-resident brokers on insurance on risks located in New Mexico.

Two very important decisions were given against the fire insurance companies, the Supreme Courts of Missouri and Kansas holding that fire insurance rates in their respective States must be reduced as ordered by the Superintendents of Insurance of the States several years ago. In Missouri the companies claimed to have lost money rather than made an undue profit. The holding of the Supreme Court of that State as to the proper methods of computing underwriting profit was so unfavorable to the companies that it would affect their interests very seriously elsewhere in future if allowed to stand. The Missouri case was before the Supreme Court of the United States, and at the end of the year the Kansas Supreme Court had granted a motion for a reargument of the case before it.

One of the most important branches of the business of fire insurance companies was automobile fire and theft insurance. Owing to some reductions in rates it was a question whether the premium income from this source equaled that of 1925 although many more cars were insured. Companies are believed to have made some profit on automobile fire insurance, but the increase in the number of thefts in some sections, especially in certain Middle Western cities, was serious, and thefts of equipment from cars have been so serious a source of loss that equipment is being excluded from the coverage of the policies.

Insurance of the entire output of some automobile factories under "wholesale" plans created less consternation among insurance agents than in 1925, as the most important plan of this sort came to an end July 1. The conditions prevailing in the automobile market, the overloading of the used car market and the extension of the financing of sales of automobiles to persons who could not afford them were all raising serious problems for the underwriters.

Tornado insurance, which has been most largely written by fire insurance companies in the States of the upper Mississippi Valley, was profitable in that territory, but in September a tropical hurricane which struck Miami, Florida, and some other points caused losses to the companies estimated at from \$12,000,000 to \$16,000,000. This was a severe setback and forced many underwriters to revise their views. It became evident that while tornadoes in the West cause hundreds of small losses every year, the Gulf Coast may be virtually immune from loss for a number of years and then suffer one devastating storm which will cause insurers to lose in one day more than their premium income from windstorm insurance in that territory for a number of years. Effects of the hurricane on various classes of structures at Miami were carefully studied by engineers and architects with a view to designing buildings which will better withstand such winds and by

underwriters to determine what classes of structures they may insure with reasonable safety.

Rain insurance, which is written by a number of fire insurance companies, was smaller in volume in 1926 than in several previous years. The companies had lost heavily on this class of business and accordingly revised and restricted their policies. The result was a lower loss ratio.

Marine insurance, though still far from satisfactory, improved during 1926. Rates were too low, but the American underwriters were in competition with European markets and had the alternative of accepting inadequate rates or losing the business. Too frequently they chose the former course. The London market on cargo insurance was stiffening for it also has lost money. Rates on hulls had really improved. A well informed underwriter concluded that a few American offices made a small profit or broke even and the remainder sustained a loss.

Casualty companies generally made a good gain from investments but not much underwriting profit. The business again grew materially in volume. One authority estimates the increase in premium income at approximately \$60,000,000, bringing the total up to nearly or quite \$700,000,000.

Workmen's compensation insurance continued unsatisfactory from an underwriting standpoint, and many companies were writing the class sparingly. As rates are based on experience and experience constantly changes it is impossible to make rates accurately meet the conditions at any specified time. When both experience and the fact that compensation laws are being liberalized indicate that rates should be advanced, opposition results in delay and meanwhile companies are securing inadequate rates. The general experience on this class has been improving, but as legislatures constantly increase the compensation benefits to be paid or include incapacity due to occupational disease as well as to accident, it is difficult immediately to provide in the rates for these additional loss factors, and an industrial depression when pay rolls and the companies' premium incomes would go down and malingering increase might within a few months make the business very unprofitable. Hence underwriters feel obliged to deal with this class cautiously.

In the field of automobile liability insurance the experience on commercial cars was so bad that rates had to be advanced 7.6 per cent on the average. The experience on private cars was favorable except in certain localities, and in these the rates were advanced. The general policy had been adopted of raising or lowering rates in individual cities or districts according to experience, thus enabling car owners in any locality to secure lower rates if the number of accidents was reduced either by careful driving or by strict enforcement of public regulations and making them pay the penalty for carelessness and laxity.

The outstanding event in automobile insurance was the fact that Massachusetts had enacted a law, effective Jan. 1, 1927, requiring every owner of an automobile to carry liability insurance or furnish a bond or other security to guarantee his ability to meet judgments for personal injuries to others resulting from the operation of his car. As this law empowered the Commissioner of Insurance to make the rates for the insurance and companies were re-

quired to furnish insurance to those demanding it unless a public board relieved them from so doing, underwriters were at sea as to what effect the law would have on their business. It vastly increased the volume of premiums by compelling previously uninsured car owners to insure, but it would require experience to show whether losses would increase even more than the premiums do.

The volume of personal accident insurance increased, but the companies had so much trouble with health insurance that many of them restricted their policies and reduced the volume of this class of business on their books. The loss ratio on accident insurance increased somewhat, due chiefly to the larger number of accidental deaths, largely attributable to the automobile. A number of insurance companies in 1920, decided to cover under their accident policies, without additional premium, injury or death of policyholders while riding as passengers in licensed airplanes operated by licensed pilots over established routes.

The experience with burglary and robbery insurance improved in the latter part of the year, largely due to the public's awakening and determining to stamp out crimes of violence. This was manifested in New York State by the enactment of the Baumes Laws, requiring courts to impose sentences of imprisonment for life on criminals who had a record of three previous convictions. In the West the formation of vigilance committees and organization of guards by bankers' associations helped to reduce the number of burglaries and robberies.

Plate glass insurance had a good year and experience warranted a reduction in rates, which was made. As a result it is believed premium income in this branch was somewhat reduced.

The volume of steam boiler insurance grew very little, if any, and possibly decreased. This was attributed to the increase in the number of central plants where a few large boilers did the work previously done by many smaller ones; to the increased substitution of internal combustion engines for steam engines, and to the increased development of hydro-electric plants.

Surety companies generally reported the largest premium incomes they had ever had with an excellent experience, resulting in large profits. See also FIRE PROTECTION, FIRES.

**INTERCOLLEGIATE ATHLETICS.** See ATHLETICS, TRACK AND FIELD.

#### **INTERNAL COMBUSTION ENGINES.**

The most significant event in this field in 1920 in the United States was the award of contracts for and the construction of Diesel engines, on order of the United States Shipping Board, in an attempt to recondition a number of vessels by discarding the steam equipment. The board called for bids on 3000 h.p., 90 r.p.m., double-acting engines. Practically all the builders who offered bids were awarded contracts, so that there would be an opportunity to judge the relative merits of various types of engines in such service. At the end of the year engines had been delivered by the Worthington Pump & Machinery Corporation, the Mackintosh & Seymour Corporation, and the Busch-Sulzer Bros. Diesel Engine Co., while other makers were completing their contracts by the end of the year so that they would be in a condition to conduct acceptance tests. Aside

from their importance to American shipping, these contracts were of interest as encouraging American manufacturers in the construction of large units which were of sufficient size for use in ordinary single or multiple installations.

During the year there were shipped to the Panama Canal three 3750 h.p. units of a two-stroke-cycle type; while four 2000 h.p. Nordberg Diesels were under construction for the Commerce Royalty and Mining Co. to be used in its mines and mills in the lead fields of Oklahoma. In the smaller-size Diesel engines, a number were manufactured for export to South America, and at a number of central stations, as in Florida, these machines were in demand. At the municipal plant at Freeport, N. Y., an 1160 h.p. two-stroke-cycle engine was added during the year to three smaller units, making this the largest Diesel central station in the North Atlantic States. During the year there was turned out a V-type Diesel engine for the New York Central Railroad, to use with a locomotive. It was reported at the end of the year that an 800-h.p. V-engine for the Pennsylvania Railroad was being designed, and it was stated that there were about 20 Diesel locomotives in use or in process of construction. The success of the Diesel engine has led to its more extended use for power shovels and industrial locomotives. American manufacturers had secured the rights of German builders to manufacture units of the light-weight, high-speed type during the year, and there seemed to be a demand for such machines. The Foos high-speed Diesel engine, developed to run at speeds up to 900 r.p.m. and rated at 25 to 40 h.p. per cylinder, was a purely American design developed during the year. This weighed about 40 lb. per h.p. and employed direct pump injection without a precombustion chamber. High-speed engines direct-connected to gas compressors were used during the year to increase the flow of Oklahoma oil wells; these engines for the most part were from German designs, but were manufactured in the United States and modified to use natural gas until oil fuel was available. *Power* (New York), in a review of the Diesel engine industry, stated that there were in use in the United States 1,175,765 h.p. of Diesel, or cold-starting oil engines. Of this 815,000 h.p. had been built since 1921, and over 130,000 h.p. had been placed in central-station service. At the end of the year there were practically 250,000 h.p. Diesel engines used for the pumping plants of the oil pipe lines, these units being employed to the exclusion of other engines.

**INTERNATIONAL ARBITRATION.** See ARBITRATION, INTERNATIONAL.

**INTERNATIONAL ASSOCIATION FOR SOCIAL PROGRESS.** See SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR.

**INTERNATIONALISM.** At the Sesqui-Centennial Exposition an invitation was extended to organizations interested in the promotion of international goodwill to coöperate in making a general exhibit at the Sesqui-Centennial Exposition in Philadelphia. The whole subject of greater coöperation between nations was essentially one of the main objectives of this Exposition; 1200 square feet were devoted to this purpose in The Palace of Education and Social Economy without cost. One of the main themes of the exhibit was the interdependence of nations. There were mechanical

features showing the reasons for independence in 1776 and for interdependence in 1928. Important steps in the development of the principle of friendship between nations were shown by models. In addition there were shown in the Auditorium, a series of illustrative motion pictures.

The *Southern California Council on International Relations* held its second Annual Conference in June, with 80 representatives from 28 different organizations. Some of these co-operating bodies were the Bureau of Roman Catholic Charities, the Council of Jewish Women, Young Women's Christian Association, Woman's Christian Temperance Union, the League of Women Voters, General Federation of Women's Clubs, Japanese Federated Churches, California State Church Federation, English-Speaking Union, Masaryk Society (Czecho-Slovakian), the German Club and the High School Teachers' Association. There were 46 organizations actually co-operating, with headquarters in the Chamber of Commerce Building, Los Angeles.

*John Simon Guggenheim Memorial Foundation*, to improve the quality of education and the practice of the arts and professions in the United States, to foster research, and to provide for the cause of better international understanding. This Foundation was established by former United States Senator and Mrs. Simon Guggenheim as a memorial to a son who died Apr. 26, 1922. It offers a limited number of fellowships, tenable abroad under the freest possible conditions, for research in any field of knowledge and for creative work in any of the fine arts, including music. President Frank Aydelotte of Swarthmore was Chairman of the Committee on Awards.

An *Institute of International Relations* was held at the Mission Inn, Riverside, Cal., December 5 to 12. Since 1921, an Institute of Politics has been held at Williamstown, Massachusetts, under the auspices of Williams College, but comparatively few have been able to attend from western States. The Institute at Riverside had for its purpose the promotion of serious study of the problems involved in international relations, in the belief that there are many within its reach who can make valuable contributions toward that understanding of such problems as will lead to universal goodwill and world peace. The Institute will meet annually. The program laid special emphasis upon the problems of the Pacific Basin. The Institute was held under the auspices of the University of Southern California.

The *Geneva Institute of International Relations* met for the third time in Geneva, Switzerland, during the week of August 15 to 21, under the auspices of the League of Nations Non-Partisan Association, and the League of Nations Union of Great Britain. Well known lecturers on various phases of international thought and activity were secured and the week was one of interest and value to all who attended.

The *International Federation of League of Nations Societies*. Composed of national groups of more than 50 countries, this organization was engaged in exploiting the work of the League of Nations and the International Labor Organization, and in influencing governments to use the methods and auspices of the League of Nations in their international affairs. The International Federation is organized as follows:

The *Representative Council* consisting of representatives of all the Societies and meeting at least twice a year decides in the main what subjects shall be treated by the Federation. Four Standing Committees prepare proposals on the following subjects: I. Education and Propaganda. II. National Minorities of language, race and religion. III. The International Labor Organization and Social Legislation (Sub-Committee on the International Economic Conference). IV. Political, Juridical and Mandates Questions. The Annual Plenary Congress, (which has met latterly in Prague, Vienna, Lyons, Warsaw and Aberystwyth and will meet in 1927 in Germany) considers these proposals and in its resolutions upon them lays down the general policy of the Societies and the Federation. (See PEACE AND PEACE MOVEMENTS.)

INTERNATIONAL CONCILIATION. Dr. Henry S. Pritchett, a Trustee of the Carnegie Endowment for International Peace, visited Egypt, Palestine and Greece at the request of the President of the Endowment with a view to explaining to leading personalities of those parts of the world the organization and work of the Endowment and to acquire by personal contact, information as to what activities the Endowment might attempt or aid there with reasonable prospect of helpfulness and success. In the winter and spring of 1926, Dr. Pritchett studied the wide-spread unrest in the Mohammedan world, as well as the general political situation in the countries above mentioned and their educational problems and needs, and prepared a formal report. He brought with him an English translation of the Constitution of the new Kingdom of Egypt which, so far as can be learned, had never before appeared in English. It was translated from Arabic into French and from French into English.

INTERNATIONAL LANGUAGE. There was nothing particularly new or stirring to report in the programme of the movement for the adoption of an International Language. Events followed their natural course; and they are noted faithfully—and impartially—by the offices established in New York, by the International A (uxiliary) L(anguage) A(ssociation), at Columbia University; their free "bureau of information" has developed to such an extent that the time of one person is taken up entirely by correspondence and sale business. (See YEAR BOOK for 1925.) One may mention however, among the more interesting developments, the report of Research Assistant Henry D. Gideonse who visited Berlin in 1925, and who announced the formation of a joint committee of the German Chamber of Commerce and the German National Association of Manufacturers, to study the question of the International Language. The I.A.L.A. also announced the undertaking of a fundamental work *Grammar of Thought*, which, however, would require several years for completion. There was an inquiry under way into the conditions of the International Language in England and especially in schools. The University of Edinburgh in connection with the World Esperanto Congress, in the summer, of 1926 announced a course in Esperanto. The (6th) International Ido Congress was held at Prague in the first days of August.

Esperanto, Ido, Nov-Esperanto and all the other varieties of International Language were doing their regular work of propaganda, by

articles, books, lectures, and in trying to get hold of radio activities so that their respective language might perhaps ultimately become, through this medium, the International auxiliary language. The outside observer notices that while so far Esperanto had tried more than the others to get the support of the proletariat, the Idists have ceased to ignore that road to progress, and have now a seemingly strong Socialist paper (*Revo Internacia, Organo de la Laborista Ido-Unio*), published in Leipzig). But what strikes the outside observer too is the recent opposite tendency in America, to look to Society for support. Quite a number of fashionable schools in New York and in New England have taken up the study of some International Language. Radio talks and "Ten-minute lessons in Esperanto" are delivered by women also. Some of the women's colleges, like Hunter College, Vassar, and Mount Holyoke, have followed in these steps. We must mention also as having taken a favorable stand, the International Federation of University Women, the American Association of University Women, and the New York City Federation of Women's Clubs. There has been also some work done at the Children's University; and the International Parents' League of New York City has taken up the question.

Although some interesting work has developed among scholars (see above, and previous YEAR BOOKS), one must admit that as a class, they continue to turn a cold shoulder to the idea of an International Language, at least of one that is artificial. Prof. H. Collitz of Johns Hopkins, President of the Modern Language Association in 1925 published early in the year (*Publ. Mod. Lang. Assn.*, March, 1926) a speech delivered in Chicago, *World Languages*. From this very scholarly discourse we learn that the idea of an International Language was a very ancient one; for if Collitz is right there was something back of the Babel Tower legend, and Babylonian at one time enjoyed the distinction of being an International Language, as did Greek and later Latin. With regard to modern artificial languages, Collitz considers Volapük as gone forever and Ido as distinctly superior to Esperanto. However, he discards the idea of an artificial tongue altogether; it could exist only at the expense of the wealth of language and of life; to adopt an artificial language "would amount to nothing less than to moving from a palace to a poorhouse." And to prove this the grave, orthodox Professor makes a fine plea for slang, which keeps a language alive. Again, the Linguistic Association—which has so far proved less antagonistic to an artificial tongue—listened in December, in Cambridge, Mass. to a paper by Professor Nykl of Marquette University, *Why Esperanto?* Scientific tests have proved to the satisfaction of the author the "superiority of English and French for brevity, accuracy, clearness and ease of enunciation; English in particular being backed by the use of 150,000,000 people. In this test Esperanto fails in brevity and in its accumulative vocabulary. As an International Language it is a clumsy instrument because of its rigid principles of word-building, rigidity not being admissible in a 'living language.'"

**INTERNATIONAL LAW.** The committee of experts for the progressive codification of International Law appointed by the League of

Nations (see YEAR BOOK, 1925) held its second session at Geneva in January, 1926, and worked intensively for three weeks accomplishing the following results:

The Committee on Diplomatic Privilege and Immunities recommended an examination of this subject to the Governments and transmitted at the same time a list of individual questions which in their opinion appear suitable for solution by codification.

On the subject of extradition nothing will be recommended for codification at this time as the points upon which the Committee believe that an agreement could be reached, as for instance specialty or priority of extradition, are too insignificant as compared with the more important problems of the law of extradition with regard to which there is little hope of agreement. Provisionally the report of Professor Brierly (Oxford) and de Visscher (Ghent) will be transmitted to the Governments with this opinion of the Committee.

The Committee decided not to recommend the question of the criminal competence of states in regard to offenses committed outside their territories for codification, but the Brierly-de Visscher report was sent to the Governments.

As to territorial seas, this question was recommended to the Governments for codification and the report of Professor Schücking (Germany) with the supplementary remarks of M. Magalhães (Portugal) and Mr. Wickersham (United States) was transmitted to the Governments. The Committee however preserved a non-committal attitude with regard to the question, although Professor Schücking struck out of the conclusions presented the proposition for an international water-board and decreasing the proposed limits for territorial waters from 6 to 3 sea miles.

With regard to the liability of states, this question will be recommended to the Governments for codification, with the report of M. Guerrero (Envoy for San Salvador) and M. Wang (China). The Committee does not however take any stand with regard to the question nor with regard to the conclusions of the rapporteur, M. Guerrero.

A procedure for international conferences and the conclusion and drafting of treaties was recommended for codification in the shape of a valid convention. The report of M. Mastny and M. Rundstein (Poland) was sent to the Governments.

As to exploitation of the products of the sea, the Committee was of opinion that the problems contained in the report of M. Suarez (Argentina) could only be solved by a special conference of experts. It insists on the necessity of immediate measures against the extinction of the fauna of the sea, and accordingly the report of M. Suarez was forwarded to the Governments.

Nationality, on the basis of the Rundstein report, which however only relates to a few cases of double citizenship and of no citizenship, was recommended to the governments for codification. For this purpose the Rundstein report with the remarks of Professor Schücking and M. Magalhães was transmitted to the Governments, the Committee not adopting any standpoint with regard to the details of the proposals.

The report of M. Magalhães on the legal status of government ships employed in commerce hav-

ing been examined by the Committee, was transmitted to the League of Nations with the proposal that either the Belgian Government or the Council of the League shall forthwith call an official conference. But no opinion was expressed with regard to the details of the Magalhães report.

Piracy is also recommended to the Governments for codification. The report of Mr. Matsuda (Japan) and M. Wang was sent to the Governments, the Committee expressing no opinion as to the report itself and the conclusions reached by Mr. Matsuda.

As to prescription the Committee refrained from adopting any conclusions in view of the absence, through illness, of the rapporteur.

This survey shows that the Governments have been asked for an opinion with regard to the suitability and the desirability of a codification of a whole series of questions of varying importance. The Governments thus have the opportunity of going into the details of those questions by means of the reports communicated to them and of making their point of view known to the Committee for its next sitting, through the machinery of the League. The chief idea in the Committee was that the Governments might usefully take the opportunity of hearing the advice more particularly of expert societies of a scientific nature on the questions involved. The Inter Parliamentary Union (q.v.) which has concerned itself with the problem of the codification of International Law for some 30 years will confine itself to taking cognizance of the proceedings.

In an address before the American Society of International Law, Mr. Wickersham, American representative on the Committee of Experts, said that in addition to adopting the reports above mentioned, the Committee, in order to employ as usefully as possible the time which necessarily must elapse before answers to these communications may reasonably be expected, agreed upon a list of additional subjects to be studied by various subcommittees appointed for the purpose, namely, whether it is possible to establish by way of international convention (1) dispositions concerning the communication of judicial and extra-judicial proceedings in penal matters, as well as letters rogatory in criminal proceedings; (2) dispositions concerning the juridical status of private international associations not for profit, as well as private international foundations; (3) the judicial situation and the functions of consuls; (4) the determinations, in the absence of special provisions, of the effects of the most favored nations clause in treaties; (5) international rules concerning the competence of courts regarding foreign states and especially regarding states engaged in commercial transactions; (6) recognition of the juridical personality of foreign commercial associations; (7) international rules of conflict of laws concerning contracts for the sale of merchandise. The Committee also constituted subcommittees to consider (8) whether or not there are questions relative to the conflict of laws relating to domicile, the conventional solution of which might be considered without conflict with obstacles of a political nature; what those questions are, and what solutions they might receive; (9) whether it is desirable to revise the classification of diplomatic agent as established by the Congresses of Vienna and

Aix-la-Chapelle, and if so, in what manner such revision should be stated, and (10) whether it is possible without conflict with obstacles of a political or economic nature to formulate by way of convention international rules concerning the nationality of commercial associations, as well as the determination of the state which should have the right to extend diplomatic protection to them.

AN AMERICAN ATTEMPT AT CODIFICATION. On May 3, U. S. Representative George Holden Tinkham (of Mass.) introduced a resolution to propose, on behalf of the Government of the United States, to the nations of the world the calling of a third Hague conference, or to accept an invitation to participate on behalf of the United States in such a conference upon the proposal of some other government which had itself taken part in the second Hague conference, and to recommend to such conference the codification of international law for the following purposes: (1), To restate the established rules of international law; (2), to formulate and agree upon the amendments and additions, if any, to the rules of international law shown to be necessary or useful; (3), to endeavor to reconcile divergent views and to secure general agreement upon the rules which have been in dispute heretofore; and (4), to consider the subjects not now adequately regulated by international law, but as to which the interest of international justice requires that rules of law shall be declared and accepted.

Chairman Porter, of the Committee on Foreign Affairs, reported the resolution favorably and it was passed by the House of Representatives. A similar resolution introduced in the Senate by Senator Means, was pending at the end of the year. Concerning this proposition the Foreign Policy Association said such action by President Coolidge would be a duplication of effort, since preparatory work for such conferences is already in progress. The Committee of Experts (see above) appointed by the Council of the League of Nations, and of which George W. Wickersham, former Attorney General of the United States, is a member, has prepared reports on seven subjects considered ready for codification: Nationality; territorial waters; diplomatic privileges and immunities; responsibility of states for damage done in their territories to the person or property of foreigners; procedure of international conferences and procedure for the conclusion and drafting of treaties; piracy; exploitation of the products of the sea. These reports, some of which contain projects for international conventions were submitted to the various governments with the request that they send replies before Oct. 15, 1926. The next step will be an examination of the replies by the Committee of Experts, which will then report to the Council "on the questions which are sufficiently ripe and on the procedure which might be followed with a view to preparing eventually for conferences for their solution."

INTERNATIONAL LAW ORGANIZATIONS. Neither the American Institute of International Law nor the Institute of International Law held a meeting in 1926 as they do not hold meetings every year, although it was the practice for some years of the European Institute to do so. That Institute will hold its next session in Washington in the fall of 1927. The American



Institute of International Law is to meet at Montevideo in March, 1927. The 1926 instructional period of the Hague Academy of International Law lasted from July 6 to August 27. The main subject was public international law in relation to peace. Private international law also found a place in the syllabus. During each of the two periods, fundamental courses were given on the historical development and general principles of international law, both public and private, while a certain number of special lectures were devoted to carefully defined subjects, selected according to the special competence of professors and as far as possible amongst the juridical problems at the present time of international interest. The teaching is given in French. Conceived in a spirit that aims at being both practical and highly scientific, it differs essentially from the similar teaching given in universities. It seeks greater variety, more definite specialization and above all greater thoroughness. Each subject is studied in all its bearings, and with all desirable objectivity, to avoid giving offense to the natural susceptibilities of any nation.

The Third International Conference of American States which met at Rio de Janeiro in 1906, provided for an International Commission of Jurists, to be entrusted with the codification of private and public international law. This Commission prepared preliminary material, and later on the American Institute of International Law prepared projects of codification. These projects of codification are to be submitted to the International Commission of Jurists, which was to assemble at Rio de Janeiro, on Apr. 16, 1927. The results of the work of this Commission will then be submitted to the Sixth International Conference of American States, which was to meet at Havana, in January, 1928.

THE PERMANENT INTERNATIONAL CRIMINAL COURT. Since the Spring of 1916, when Hugh H. L. Bellot, D.C.L. suggested the creation of an International Tribunal for the trial and punishment of war criminals upon the conclusion of peace, public opinion has steadily supported the idea. Such a Court was recommended by the British Committee of Enquiry into Breaches of the Laws of War, and this recommendation was endorsed by the International Commission on War Crimes appointed by the Peace Conference. Unfortunately, this recommendation was rejected by "the Supreme Four," but it was subsequently recommended by the Hague jurists, who drafted the statute for the Permanent Court of International Justice. In his address to the Grotius Society in 1922 on War Crimes, Lord Cave said the time had come to confer criminal jurisdiction on the Permanent Court at The Hague. At the Buenos Aires Conference of the International Law Association in the same year the proposal was advocated by Lord Phillimore and Mr. Bellot, and both suggested that the jurisdiction of the Court should extend to non-military offenses as well as to military. In approving the creation of the Court, however, the Conference decided to confine it to war crimes and invited Mr. Bellot to draft a Statute for the Court. This he prepared and presented to the Stockholm Conference of the Institute of International Law in 1924, which, without expressing any opinion upon the merits of the proposal, referred the draft to a Committee, which reported in April,

1926, in favor of the scheme, and presented the Statute as revised to the Conference which met at Vienna on August 5. In the meantime the Conference of the Inter-Parliamentary Union which met at Washington in 1925, approved the proposal and appointed a Committee to draft a Statute and at the Congress of the International Penal Law Association, held at Brussels, on July 26 under the presidency of Count Carton de Wiart, the principles underlying the scheme were unanimously adopted and a Committee was appointed to draft a statute.

At Vienna the only serious difference of opinion arose upon the question whether a criminal code should precede the establishment of the Court, or whether the Court should be established forthwith, and apply the substantive law already in existence. Eventually a compromise was effected and the following resolution adopted: "The Conference approves the creation of a criminal division of the Permanent Court of International Justice, the original jurisdiction of which shall be limited to the offenses specified in the Statute or in special conventions."

This resolution necessitated the addition of a proviso to Art. 23 of the Statute, which defines the law to be applied by the Court. By this Article

"The Court shall apply—

1. International treaties, conventions and declarations, whether general or particular, recognized by the States before the Court;
2. International custom, as evidence of a general practice accepted as law;
3. The general principles of Public or International Law recognized by civilized nations;
4. Judicial decisions, as a subsidiary means for the determination of rules of law;
5. Doctrines of highly qualified jurists may also be referred to.

"Provided that no act may be tried as an offense unless it is specified as a criminal offense either in the Statute of the Court or in the municipal law of the defendant, or in the case of a *heimatlos* in the law of his residence at the time of the commission of the offense or, failing such residence, the law of the State where the crime is committed."

The Statute is based upon the assumption that an International Convention will be adopted by the Powers agreeing to the institution of the Court, and granting to it the necessary jurisdiction. This Convention would also provide, *inter alia*, for the surrender of persons charged with offenses found in the territory of any of the Contracting Parties, and for the disclosure and production of all relevant documents by the defendant State, or by the State of the persons so charged.

The Statute provides that the Court shall be a Division of the Permanent International Court of Justice, but that it shall exercise a separate jurisdiction in the cases of States and individuals charged with international offenses as therein defined. It is generally agreed that the personnel of the present Permanent Court is not suitable for the trial of criminal offenses. Consequently, the Court is to be composed of 15 members—10 Judges and five Deputy Judges—who possess the qualifications in their respective countries for appointment to high judicial office, being, or having been, either Judges of Courts administering penal law, or, being lawyers, are specially qualified by ex-



perience in the practice of such courts. They are to be elected by the same process as the Judges of the present Permanent Court, from a list of persons nominated by the national groups in the Permanent Court of Arbitration at The Hague. The duration of their service, their diplomatic immunities, their disabilities, the filling of vacancies and their dismissal for misconduct, are similar to those of the Judges of the Permanent Court. The Court will elect its President and Vice-President and appoint its Registrar: its seat will be at The Hague. The President, or failing him, the Vice-President, will form the Court, which may sit *in banco* or in one or more sections, consisting of five judges, one of whom may be a deputy Judge. In certain cases there is a right of appeal from a Sectional Court to the full court, for the trial of minor offenses committed by individuals and for interlocutory proceedings. Courts of Summary Jurisdiction may be constituted. From these Courts there is also a right of appeal to the full court.

The jurisdiction of the court extends to all charged with (a) Violations of international obligations of a penal character committed by the subjects or citizens of one State, or by a *heimatlos* against another State, or its subjects or citizens.

b. Violations of any treaty, convention, or declaration binding on the States parties to the Convention of . . . which regulates the methods and conduct of warfare;

c. Violations of the laws and customs of war generally accepted as binding by civilized nations.

Further, the court may deal with cases of a penal character referred to it by the Council of the League of Nations for trial or for inquiry and report.

Any question as to the jurisdiction of the court will be determined by the court.

According to Mr. Bellot great importance was attached by the Conference to the power of the Court to pronounce a declaratory judgment upon any case before the Court without imposing any penalty, but the Conference declined to give power to the Court to give a declaratory judgment in circumstances which were only in contemplation, after the method of the British Chancery injunction.

The following penalties may be imposed: The defendant State may be ordered to pay to the complaining State (a) a pecuniary penalty; (b) indemnity for any damage done; (c) a sum by way of indemnity to any subject or citizen of the complaining State. In the case of an individual the punishment lies in the discretion of the Court, provided that the death penalty may only be imposed if it may be inflicted for a similar offense by the law of his State. In no case may flogging be decreed. The court may determine the character of imprisonment or penal detention directed and may impose pecuniary penalties and indemnities in addition to, or substitution for, any punishment.

The law to be applied has already been described. Like the Permanent Court, the court will frame rules for regulating its procedure, including summary procedure, but certain rules of procedure of prime importance are prescribed by the Statute. The most important is that which confines to States the right to lodge a charge. Individuals have no *locus standi*. States will

lodge charges on behalf of their subjects at their discretion. If the charge is against an individual only, the State of the defendant must be added. The reasons for this provision are (1) that the State is properly to be identified with its nationals when they commit international wrongs; (2) that the presence of the State enables it to secure a full defense to be made on behalf of the individual. In order to prevent trivial charges, leave to serve a charge must first be obtained by an *ex parte* application of the court, which has power to dismiss any charge which in its opinion is of an unsubstantial character or frivolous or vexatious, or an abuse of the process of the court. With this process we are familiar in this country.

Mr. Bellot, the author of the Statute, thus supports the proposition: The main purpose is twofold; first, to preserve peace; and secondly, if war unhappily breaks out, to prevent atrocities, and to punish such as are committed and not punished by the belligerent military courts. Thus, the jurisdiction of the court extends to penal offenses of an international character committed in time of peace, and which are likely to lead to international complications. Had the court been in existence in 1914, the Serajevo murder might have been referred to it without loss of dignity on the part of Austria or Serbia with more satisfactory results than a world war. The Janina murders in 1923 might also have been more satisfactorily determined by such a court than by the Conference of Ambassadors which took charge of the incident. The Hungarian Banknote Forgery Case constitutes another instance of an inquiry which would probably have been more satisfactorily tried by an International court than by the Hungarian Court.

War crimes must, as a rule, be dealt with on the spot by the military courts of the belligerents. But there are exceptions. For instance, the *Baralong* affair in which grave charges were made against a British naval officer, was eminently suitable for inquiry by an impartial international tribunal. But it is upon the conclusion of war that the court is so essential, since military courts cease to have any jurisdiction, and the civil courts have none unless the crime has been committed within their jurisdiction. Moreover, few war criminals are captured in the field. Many of the worst offenders are those behind the lines, and those at headquarters who give unlawful orders. In many cases even their names are unknown until after the war. The mere possibility of trial and punishment would prove some check to individual atrocities, and the high command would hesitate to give unlawful orders for which it might be called to account after the war. The Statute provides for the execution of the sentence to be carried out by the State of the defendant. Lord Darling fears that a State might evade this duty. Mr. Bellot does not share this fear. No State which had agreed to be bound by the Statute could refuse to obey the order of the Court and retain its self-respect in the eyes of the world. No modern State can afford to flout public opinion. No less than 80 disputes between States in the American Union, and between such States and the United States, have been tried by the Supreme Court of the United States. In few cases the defendants refused to appear. In not a single case has a State re-

fused to obey the order of the court, although the court has no means of enforcing its judgment.

Finally, an International Court is imperative. Experience has shown that the trial of war crimes by national courts whether of the vanquished or victor, has almost invariably proved unsatisfactory. However fair and impartial in fact such a trial may be, it is generally viewed with suspicion. Such trials are naturally open to the suspicion of national bias; they would result in conflicting decisions and varying penalties. It is International, not National, Law, which is broken, and violations of International Law are more fittingly tried by an International than by a national court. If the rule of law is to be established in the family of nations, it can only be satisfactorily established by the co-operation of all nations expressed through an International Court endowed with penal as well as with civil jurisdiction.

**INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY.** See CHEMISTRY, INDUSTRIAL.

**INTER-PARLIAMENTARY UNION.** Instead of the regular conference in 1926 there was a joint session of the six permanent committees and of the council. They examined a large number of questions, adopting in some cases draft resolutions or more frequently fixing the procedure and programme of future work. Once again the adaptability of the organization has been proved. Whereas at the full conferences which had been held in the course of recent years the Union had shown itself a useful instrument for propaganda and for the spread of ideas of peace and international coöperation, at Geneva the organization assumed its rôle of a study centre at which the representatives of the various parliaments of the world could come together. The delegates of 21 National Groups met at the Palais Eynard. Aware that no festivity or reception had been provided to distract them from their work, they devoted themselves to the task in hand with seriousness and enthusiasm.

The work of the Committee for Political and Organization Questions was prepared by two subcommittees which met on Thursday, August 26. One of these studied what is termed the "crisis in the parliamentary system" and the other examined various proposals for the development of the Union. The Committee adopted a resolution setting forth that in view of the fact that the 23rd Inter-Parliamentary Conference which met at Washington and Ottawa in 1925 entrusted it with the task of studying the parliamentary systems in the different States and considering that the Union is by its very nature the international institution best adapted to obtain useful results with regard to the defense and the improvements of the parliamentary régime, it requested its subcommittee to invite a certain number of specialists on the subject of Public and Constitutional Law to give their opinion as to the present state of the representative system; and the Inter-Parliamentary Bureau to invite all the National Groups of the Union to nominate one or two of their members who will be asked to give answers to the following questions: (a) Is there a crisis in the parliamentary system?; (b) What are the symptoms of that crisis?; (c) What are the causes of the crisis?; (d)

What remedies do you suggest? The Union considered but did not determine the question of more active propaganda and the upkeep of a permanent Secretariat for a Group which would devote itself in particular to similar objects.

The extensive agenda of the Committee for Juridical Questions gave rise to highly interesting debates on the present state of the evolution of International Law (q.v.) and the rôle which the Union can and should play in that evolution. In connection with the Codification of International Law, Professor Schlegel (Germany) submitted the following principles which were adopted by the Committee:

1. In view of the fact that the Committee for the Codification of International Law instituted by the League of Nations has not up till now attempted to lay down a comprehensive plan for the codification of International Law, it will be the duty of the Inter-Parliamentary Union not to relax its efforts in favor of a total codification of International Law.

2. For this purpose it appears appropriate that the Inter-Parliamentary Union itself should, after suitable preparation by means of its Juridical Committee, come forward on its own initiative with a systematic plan for the complete codification of International Law. This plan should not, as has hitherto been the tradition in International Law, deal separately with the Law of Peace and the Law of War, but should, in accordance with the modern, though still unformulated trend of development, regard war only as an international offense (crime). Thus the rules for the peaceful settlement of conflicts (mediation, conciliation, arbitration) and the rules for international penalties would follow after the basic rules of the Law of Peace. This work should be taken in hand at once by the Committee.

3. Further, it is the duty of the Inter-Parliamentary Union to examine within its Committee for Juridical Questions the work of the League Committee for the Codification of International Law, in so far as it has been made public, relating to individual problems in this branch of science, with a view to ascertaining whether and to what extent it meets the requirements of present-day international life, and whether it appears best adapted to further the aims pursued by the Inter-Parliamentary Union, i.e., the avoidance of conflicts between states and the maintenance of international peace on the basis of law and justice.

Criticisms in this direction should be made public through the Conferences of the Inter-Parliamentary Union on the basis of appropriate proposals from the Juridical Committee, and should be transmitted to the League of Nations.

4. It should further be the task of the Inter-Parliamentary Union publicly to direct its efforts towards inducing the League Committee for the Codification of International Law to include within its scheme of work questions which, by reason of their political character, appear more particularly to demand early juridical regulation for the avoidance of international conflicts and for the safeguarding of international peace based on justice.

The Committee for Economic and Financial Questions declared that the creation of a European Customs Understanding must at present be considered as a somewhat distant end which can only be reached by gradual degrees. On the other hand, the Committee realized that certain preliminary conditions will be indispensable if the end aimed at is to be attained; these include a. Consciousness of economic solidarity between the countries of Europe; b. the stabilization of monetary values.

The Conference called special attention to the serious dangers attendant upon the abuse of opium and other drugs of addiction for the health and morality of the peoples, especially with regard to the younger generation.

The American Group held its annual meeting in Washington February 24. The old officers were reelected. The results of the 23d Conference gave rise to a very interesting discussion on the activities of the Union and more especially of the American Group. The numerous

speakers unanimously recognized that the representatives of the American people had a useful part to play in the Conferences of the Inter-Parliamentary Union, although most of the resolutions passed by the Union concerned problems having nothing to do with the United States. The fact that the American delegation usually played the rôle of observer rendered methodical action by Government and Congress more difficult. Nevertheless, the American Group has rendered important services, not only to the international cause, but also to the American people themselves. The last Conference was a proof of this, as was shown by the reports presented to the General Assembly. These reports insist upon the unique occasion offered to the American public to enter into relations with eminent foreign politicians and to inform themselves upon the great questions agitating the old world. The discussion closed on an optimistic note, after several speakers had insisted on the usefulness of giving effective support to the cause of the codification of international law.

An Inter-Parliamentary Group was created within the Congress of the United States of Venezuela by a decree of that Assembly of July 6, due to the initiative of Señora Carlos Grisanti and Luis Churion, who submitted to the Congress a report of great interest on the Washington-Ottawa Conference. A grant of 2000 francs will be paid to the central funds of the Union, in accordance with the existing scale of contributions.

The 24th Conference of the Union will be held in Paris in 1927.

#### INTERSTATE COMMERCE COMMISSION. See RAILWAYS.

IONS. See PHYSICS.

**IOWA. POPULATION.** According to the Fourteenth Census of the United States, the population of the State on Jan. 1, 1920, was 2,404,021. According to the State census taken in 1925, the population was 2,419,927. The estimated population on July 1, 1926, was 2,423,000. The capital is Des Moines.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	11,178,000	413,586,000	\$231,608,000
	1925	11,234,000	492,648,000	275,883,000
Oats	1926	6,221,000	195,962,000	68,587,000
	1925	6,221,000	248,863,000	78,036,000
Hay, tame	1926	3,158,000	3,845,000 *	59,598,000
	1925	3,034,000	4,142,000 *	55,917,000
Wheat, winter	1926	340,000	7,310,000	8,772,000
	1925	358,000	5,871,000	7,985,000
Wheat, spring	1926	36,000	554,000	659,000
	1925	30,000	432,000	562,000
Potatoes	1926	77,000	6,083,000	10,341,000
	1925	83,000	5,229,000	12,288,000
Barley	1926	219,000	6,680,000	3,741,000
	1925	175,000	5,478,000	3,122,000

\* tons.

**MINERAL PRODUCTION.** The production of coal, which of recent years has contributed nearly one-half of the value of the State's mineral product, fell off somewhat in 1925. There were mined in 1925, 4,714,843 net tons of coal, as against 5,468,450 tons in 1924; the value of coal produced in 1925 was \$14,807,000, and in 1924, \$18,097,000. Cement, the second mineral product in total value, attained a production of 4,048,000

barrels in 1925, as against 5,624,466 barrels in 1924; the total value of cement shipments was \$8,895,000 in 1925, however, and exceeded shipments in 1924, valued at \$8,811,587, shipments having been heavier in 1925. Clay products attained a value of \$5,069,810 in 1924, as against \$6,920,336 in 1923. Gypsum production rose to the quantity of 727,385 short tons in 1924, from 685,041 short tons in 1923; and to a value of \$5,657,339 in 1924, as against \$5,638,532 in 1923. Sand and gravel production was 2,427,626 short tons in 1924, and 3,597,160 short tons in 1923. The value of all mineral products was \$40,459,869 in 1924, and in 1923, \$46,174,897.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$18,349,120. Their rate per capita was \$7.58, as against \$9.74 in 1924 and \$4.53 in 1918. Their total included \$639,478 for education, apportioned to minor State divisions. Expenses totaling \$899,674 for interest on debt and \$14,241,637 for permanent improvements, added to the payments for maintenance and operation of State departments, made the total of State payments \$33,490,431. For highways was expended the sum of \$11,676,546, of which \$210,592 was for maintenance and \$11,465,954 for construction. A decline in department payments for maintenance and operation for the year resulted from a decrease of over \$6,000,000 in war compensation payments to veterans.

Revenue receipts of the State were \$33,377,541, or \$13.79 per capita. They exceeded by \$14,128,747 the total payments except those for permanent improvements, and were \$112,890 less than the total with these included. Property and special taxes formed 39 per cent of the total revenue in 1925, as against 33.4 per cent in 1924 and 51.7 per cent in 1918. Their per capita rate was \$5.39 in 1925, \$4.34 in 1924 and \$2.85 in 1918. Earnings of the general departments and compensation for officials' services furnished 15.9 per cent of the 1925 revenue; business and non-business licenses, 36.4 per cent. License receipts were derived chiefly from taxes on corporations and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$19,061,079, or \$7.88 per capita, as against \$8.06 per capita in 1924 and 5 cents per capita in 1918. The assessed valuation of property subject to State tax was \$1,710,783,546. The State tax levy was \$13,446,579, or \$5.56.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 9814. No new construction was reported. Five miles of line near Colfax was abandoned.

**EDUCATION.** The chief feature of educational progress in the State during the year as analyzed in the *Journal of the National Educational Association* was the election by the people of the State of school officials possessing the confidence and support of the educational body. The tendency toward greater uniformity in teaching in various portions of the State, in regard to matter, made headway; 39 counties agreed on a uniform set of school textbooks, for use during the ensuing period of five years.

**CHARITIES AND CORRECTIONS.** The chief charitable and correctional institutions under the

supervision of the State Board of Control in 1926 were the State prisons and reformatories, homes for orphans and for soldiers, training schools for boys and girls, hospitals for the insane, and a hospital and colony for epileptics.

**POLITICAL AND OTHER EVENTS.** At the general election of November 2, John Hammill, the Governor in office, running as Republican candidate to succeed himself, was elected Governor for the term beginning Jan. 1, 1927. Likewise were elected the entire Republican State ticket and an entirely Republican delegation of 11 U. S. Representatives. Smith W. Brookhart, Republican candidate, was likewise elected to the U. S. Senate, for the six-year term commencing Mar. 4, 1927. He obtained the Republican candidacy by virtue of his victory over Senator Albert B. Cummins at the Republican Senatorial primary on June 7. This primary victory followed his exclusion from the Senate, which had declared against him, April 12, in the contest over election returns brought by his previous opponent, Steck. He was opposed in the November election by Claude R. Porter, Democrat. For the remainder of the unexpired term of the late Senator Cummins, who died after the primaries, another Republican candidate, David W. Stewart, was elected.

At the November election new incumbents were also chosen, to take office in 1927, for the following State offices: for Auditor, J. W. Long; Attorney-General, John Fletcher; Superintendent of Public Instruction, Agnes Samuelson; Secretary of Agriculture, Mark G. Thornburg. Lieutenant Governor, Secretary of State and Treasurer remained the same.

The Iowa bank stock tax was held unconstitutional by the United States Supreme Court in a decision rendered January 4. A party known as the Commonwealth Land Party entered the State political campaign by filing on September 8, a list of candidates. Banking difficulties declared by the State Banking Commissioner, L. A. Andrew, to be purely local, the suspension of some 19 small country banks in Clay county, were followed November 26 by the closing of 19 other banks, in Palo Alto and Kossuth counties. Local appeals obtained waivers of right to immediate payment from hundreds of depositors, and some of the banks soon were able to resume. Increasing attention was given during the year to the advance of the infestation by the corn borer. This pest, according to observations, was advancing at the slow rate of about 35 miles a year and no efficacious method of checking it had yet been found.

**OFFICERS.** Governor, John Hammill; Lieutenant-Governor, Clem F. Kimball; Secretary of State, W. C. Ramsay; Treasurer, R. E. Johnson; Auditor, Glenn C. Haynes; Attorney-General, Ben J. Gibson; Superintendent of Public Instruction, Mae E. Francis; Secretary of Agriculture, R. W. Cassady.

**JUDICIARY.** Supreme Court Justices: Truman S. Stevens; Charles W. Vermillion; Frederick F. Faville; Lawrence DeGraff; William D. Evans; E. G. Albert; E. W. Morling.

**IOWA, UNIVERSITY OF.** A coeducational State institution of higher education at Iowa City, Iowa; founded in 1847. The enrollment for 1925-26 was 8300, of whom 4420 were men and 3880 women. There were 3640 enrolled in the 1926 summer session. The faculty had 600 members during 1925-26. The general library contained

250,363 volumes, and the law library 43,362. The income for 1925-26, including revolving funds, was \$5,416,951.53. During the year there were completed: a men's dormitory on the quadrangle; the first unit of Memorial Union; an observational schools building; and an addition to the chemistry building. The following were under construction in the autumn of 1926: a medical laboratories building; a new hospital; a field house; and the second unit of Memorial Union. President, Walter Albert Jessup, Ph.D., LL.D.

**IRAQ or IRAQ.** See MESOPOTAMIA.

**IRELAND.** The smaller of the two main British Isles, with an area of 32,586 square miles; politically divided into northern and southern Ireland, the former consisting of the parliamentary counties of Antrim, Armagh, Down, Fermanagh, Londonderry, and Tyrone, and the parliamentary boroughs of Londonderry and Belfast; and the latter of the remaining 26 counties. The northern counties are known as Northern Ireland and are under a separate parliament and executive, by the Government of Ireland Act of 1920 (See IRELAND, NORTHERN.) The southern counties constitute a self-governing dominion, known as the Irish Free State, under the treaty of Dec. 6, 1921. (See article, IRISH FREE STATE.) The total population of the island June 13, 1921, was estimated at 4,485,000 as compared with 4,390,219 at the census of 1911. No census for all Ireland was taken in 1921. Statistics for Ireland as a whole are no longer available, but for the two divisions they will be found under their respective titles, IRELAND, NORTHERN, and IRISH FREE STATE.

**IRELAND, NORTHERN.** The northeastern part of Ireland, comprising six of the nine counties of Ulster: Antrim, Armagh, Down, Fermanagh, Londonderry, and Tyrone, and the two parliamentary boroughs of Belfast and Londonderry. Capital, Belfast.

**AREA, POPULATION, ETC.** The area of Northern Ireland, exclusive of water, is 3,351,970 statute acres (also given as 5238 square miles). According to the census taken in 1926, the population was 1,256,322, as compared with 1,250,531 in 1911, the date of the previous census. The population of the capital, Belfast, was estimated at 434,000 in 1924. The following are the latest statistics with respect to education: Elementary education, 2041 public elementary schools with 198,593 pupils on roll; secondary education, 72 schools with 9011 pupils; technical education, 39 technical schools and 66 other centres with nearly 20,000 pupils; higher education, Queen's University at Belfast, with 66 professors and lecturers and 1136 students in 1925.

**PRODUCTION.** Agriculture is the most important industry in Northern Ireland from the point of view of numbers employed and the value of products. Approximately 212,000 persons are regularly employed in this one pursuit, as compared with 206,000 persons employed in all other industries. The principal products are potatoes, cattle, bacon and hams, eggs and butter, the exportable surplus being shipped to Great Britain. Generally speaking the farmers realized good prices for their products in 1925, thus resulting in a greater purchasing power, which has helped to sustain general trade during the depression in other industries and in the face of increasing industrial unemployment. Of the major industries in Northern Ireland,

shipbuilding holds third place, agriculture being first and the linen industry second. When the shipyards are working at full capacity, over 30,000 men find employment therein, but only about 12,000 were working during 1926. The total output for the Belfast yards—which means Northern Ireland—during 1925 totaled 57,899 gross tons, compared with 105,747 tons in 1924. No separate figures for commerce of Northern Ireland are available. They are included in the general figures for the United Kingdom.

**FINANCE.** The bulk of the taxation is imposed and gathered by the Imperial government. After the deduction of certain specified sums the balance is remitted to the Northern Ireland Exchequer. The amounts deducted by the Imperial Treasury represent: The net cost to the Imperial Treasury of those Northern Irish services which have been "reserved" to the Imperial Parliament; and a contribution (fixed at £7,920,000 annually, but subject to revision) towards Imperial liabilities and expenditures. The share of Northern Ireland in the taxation controlled by the Imperial authorities is determined by the joint exchequer board, comprising a representative of the Imperial Treasury, a representative of the Northern Irish treasury, and a chairman appointed by the King. The revenue accruing to the exchequer of Northern Ireland in 1924-25 amounted to £11,437,000 and the expenditure amounted to £11,286,000. For the year 1925-26 the revenue was expected to amount to £10,946,000 and the expenditure to approximately an equal sum.

**COMMUNICATIONS.** In addition to the railway mileage of 765, the country is served by various inland waterways, supplemented by 180 miles of canals.

**GOVERNMENT.** Northern Ireland has a local parliament with restricted jurisdiction; forms an integral part of Great Britain; is represented in the British parliament by 13 members; and is subject to the same taxation as that of Great Britain. The governor in 1926 was the Duke of Abercorn. The ministry was as follows: Prime Minister, Sir James Craig; Finance, H. M. Pollock; Home Affairs, Sir R. Dawson Bates; Labor, J. M. Andrews; Education, The Marquis of Londonderry; Agriculture, E. M. Archdale; Commerce, J. M. Barbour.

**IRISH FREE STATE.** A self-governing dominion of Great Britain, constituted under the Irish Free State government act of December, 1922, which embodied the terms of the treaty of Dec. 6, 1921. Capital, Dublin.

**AREA AND POPULATION.** The Irish Free State comprises about five-sixths of the total area of all Ireland. According to the census of 1926 the total area was 17,019,155 statute acres or 26,592 square miles. The population, according to this same census was 2,972,802, as compared with 3,139,688 in 1911. The loss in population is almost entirely due to emigration caused by unsatisfactory economic conditions in the dominion. Dublin, the capital, had a population (with its registration area) in 1911 of 397,957. In the middle of 1925 the population was estimated at 438,000.

**EDUCATION.** According to the latest available statistics there were 5696 schools in operation with accommodations for 550,000 pupils. The number of pupils enrolled in the schools was 488,902 with a daily average attendance of 71.8 per cent; the number of teachers of all

classes was approximately 11,500. The number of recognized secondary schools in 1924 was 284 with 23,031 students between the ages of 12 and 20 years. Technical schools are established in all the cities and principal towns. Higher education is supplied by the University of Dublin and the National University of Ireland, the latter having three constituent colleges at Cork, Galway, and Dublin. The statistics for the teaching staff attendance at the universities in 1923-24 were: Professors and lecturers, 249; students, 3325. Since the establishment of the Free State, the Irish language has been made an essential part of the school curriculum and it is rapidly spreading as a medium of instruction.

**PRODUCTION.** About one-fourth of the total land area of the Free State is under crops. More than three-fourths of this area is under hay and oats, while one-tenth is sown in potatoes. Historical causes, including free trade in Great Britain and the opening up of large wheat areas in America, drove the Irish farmer into the livestock business which is now the most important in value of the agricultural exports of the country. This development, combined with the failure of Great Britain to encourage industries in Ireland, is responsible in large part for the heavy emigration from Ireland and the reduction in population. The accompanying tables from the *Statesman's Year Book* for 1926 show the area of the various crops and the yield in 1923 and 1924:

<i>Crops</i>	<i>Extent in statute acres</i>	
	1923	1924
Wheat .....	31,764	27,465
Oats .....	785,989	756,813
Barley and bere .....	151,309	163,642
Rye .....	6,414	6,424
Potatoes .....	391,399	383,392
Turnips .....	198,218	201,971
Mangels .....	76,343	74,666
Cabbage .....	32,535	29,616
Flax .....	8,066	10,499
Hay .....	2,026,841	2,099,639

<i>Crops</i>	<i>Total produce</i>	
	1923	1924
Wheat .....	27,861	23,396
Oats .....	502,192	527,982
Barley and bere .....	119,313	129,659
Rye .....	3,922	.....
Potatoes .....	1,446,773	1,457,449
Turnips .....	2,809,412	2,676,882
Mangels .....	1,103,130	885,580
Cabbage .....	375,972	.....
Flax .....	1,300	1,367
Hay .....	3,573,436	4,175,685

The number of livestock in the year 1924 was: Cattle, 4,194,189; sheep, 3,127,921; pigs, 937,814; goats and kids, 193,484; horses in agriculture, 308,552; unbroken horses, 79,988; mules and jennets, 23,160; asses, 218,439.

The mineral resources include: Coal, clay, copper ore, gravel and sand, igneous rocks, limestone, ochre, umber, sandstone and slate. The mineral resources have not been developed to any great extent. The government of the Free State was expending \$30,000,000 on the development of hydroelectric power of the Shannon River. This development will provide 96,000 horse power by the year 1928, and will be one of the largest undertakings of its kind in Europe. When completed, it will aid considerably in adjusting the economic balance of the country, now preponderantly agricultural.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, the

foreign trade of the Irish Free State is unique in four important particulars: First, it consists very largely of the import and export of foodstuffs; second, as the yield and the requirement of foodstuffs are fairly constant, there is very little variation in the total values of imports and exports year by year; third, in the case of many commodities there is almost the same amount of trade inward as outward; and, fourth, a very large share of the foreign trade is within the island or with England, just across the way, so that it is not foreign trade at all in many respects.

The stability of the Irish Free State trade becomes evident when the trade figures are scanned, by the eight successive yearly periods that end, respectively, with the months from December, 1925, to July, 1926, inclusive. In each of these eight 12-month periods the total imports have remained steady at approximately £60,500,000, with the exception of the yearly periods ended May, June, and July, respectively, when they decreased by about £1,000,000. The same steadiness is true of exports, which at the end of each 12-month period showed a total of about £42,500,000, until the period ended respectively in May, June, and July, when the total fell to £41,500,000. When there is any noticeable deviation from these figures, upward or downward, it should serve as an indication, respectively, that the country is oversold or, on the other hand, that there is some latent purchasing power waiting to be tapped. This stability of inward and outward trade naturally leaves an equally stable net deficit, amounting each year to about £18,000,000, to be offset by invisible items.

Most countries are not in the market for those commodities of which an excess is produced at home sufficient for export. This is not the case with the Irish Free State, as the accompanying table shows:

BOTH-WAY MOVEMENT OF SIMILAR GOODS IN  
IRISH FREE STATE FOREIGN TRADE,  
JANUARY-JUNE, 1926

Commodity	Quantity	Imports	
		Value per unit	£. s. d.
Bacon ..... hundredweight	213,747	5 4	0
Butter ..... do.....	50,267	8 13	7
Margarine ..... do.....	25,998	3 7	5
Lard ..... do.....	10,005	3 5	0
Oats ..... do.....	200,037	10	9
Potatoes ..... do.....	370,143	8	0
Spirits ..... proof gallons.	128,666	14	5

Commodity	Quantity	Exports	
		Value per unit	£. s. d.
Bacon ..... hundredweight	193,262	6 12	7
Butter ..... do.....	133,990	8 2	7
Margarine ..... do.....	24,756	3 3	2
Lard ..... do.....	18,816	4 8	5
Oats ..... do.....	227,120	7	10
Potatoes ..... do.....	242,665	2	4
Spirits ..... proof gallons.	117,561	15	2

Since April, 1923, the Irish Free State has had its own status as a trading country, separate from Great Britain; that is, the Free State's trade with Northern Ireland and its cross channel trade with Great Britain have now become "foreign" trade instead of "domestic." This makes the United Kingdom foreign trade figures larger by the amount of its trade with the Free State. Of the £30,000,000 of Free

State imports during the first half of 1925, about 83 per cent came from Great Britain and Northern Ireland, but for the first half of 1926 the percentage dropped to 78. Of the exports, 97.4 per cent went to Great Britain and Northern Ireland in 1925, and 96.9 in 1926. This indicates a trend toward more direct trade with countries that always have been "foreign," as illustrated in the accompanying table:

DIRECT TRADE OF THE IRISH FREE STATE  
[In thousand pounds sterling]

Country	Imports		Exports	
	1925	1926	1925	1926
United States .....	1,541	1,831	134	124
Argentina .....	581	559	5	4
Canada .....	661	624	13	19
Germany .....	342	1,084	25	74
Netherlands .....	333	365	8	15
Belgium .....	236	395	64	48
India .....	141	2	27	86
France .....	174	261	46	20
Australia .....	459	155	11	8
South Africa .....	37	124	5	14

An inconsistency appears between direct imports and direct exports in that they rarely increase together. In other words, the natural condition appears still to be to send and receive shipments via the United Kingdom. To-day all classes in the Free State recognize the economic importance of the United Kingdom. The people are now much more concerned with economic than political questions. The new Irish problem is one of capital and economic adjustment. Just now there is a drain of capital away from Ireland, and British rather than Irish industry is deriving the benefit. Money with which to stock the land is increasingly hard to obtain, arable land has declined heavily in value, farms are changing hands, and there is a heavy increase in the area under hay. This trend is of vital importance to the future of the country.

FINANCE. The budget of the Irish Free State for 1925-26 carried a deficit. Upon submitting the budget to the Dail, the Minister of Finance announced that the policy of the government was to provide for non-recurrent items by borrowing, and to reduce taxes to the level of ordinary expenditures in the hope that industry and commerce may be so stimulated as to permit still further reductions in taxes, with concurrent increases in revenue. The budget indicated a tendency toward indirect taxation. New customs duties, of a protective nature, were imposed. The personal income tax and corporation profits tax were reduced, and the grant to farmers in relief of local taxes was doubled. Approximately one-fifth of the estimated expenditure was considered as nonrecurrent, and was to be covered by borrowing. If this non-recurrent item is eliminated from the consideration of receipts and expenditures, the budget should show a surplus of revenue over expenditure. The estimated revenue for the year was £25,980,110 and the estimated expenditure, £30,128,000. Official figures of the Irish Free State place the public debt, as of April 1, 1925, at £13,360,353; this compares with £13,918,000 on April 1, 1924.

COMMUNICATIONS. The principal ports are Cork and Dublin. The latest figures for shipping are those for 1924 when 14,382 vessels of 8,164,677 tons entered the ports of the Irish Free State and 14,343 vessels of 8,162,001 tons cleared. The total route mileage of railways opened for

traffic at the end of 1924 was 3023, including the mileage situated partly within and partly without the Free State. The length of first track actually within the Free State was 2668 miles.

**GOVERNMENT.** The Irish Free State has a written constitution which provides that her status shall be similar to that of the Dominion of Canada. It has a co-equal status with the other dominions of the United Kingdom, has complete control of its economic life, with a customs boundary against all countries, including Northern Ireland and Great Britain. (For details see *YEAR BOOK* for 1922.) The Governor-General in 1926 was Michael Healy, appointed Dec. 6, 1922. The executive council as organized in June, 1925, was as follows: President, William T. Cosgrave; Justice, Kevin O'Higgins; Finance, Ernest Blythe; Defense, Peter Hughes; Industry and Commerce, Patrick MacGilligan; External Affairs, Desmond Fitzgerald; Education, J. Marcus O'Sullivan. Other ministers not members of the council were: Lands and Agriculture, Patrick Hogan; Local Government and Public Health, James Burke; Fisheries, Finian Lynch; Posts and Telegraphs, James J. Walsh.

**HISTORY.** The Irish Free State passed a comparatively quiet year. With the settlement of the boundary dispute with Northern Ireland, as noted in the preceding *YEAR BOOK*, the country entered upon a period of calm and more or less uneventful peace. Eamon de Valera, the outstanding leader of the Sinn Fein movement, resigned from his position of president of the Republican Party early in March because of disagreement with the more radical members. On April 18 both the Free State and Northern Ireland began a census of their respective countries for the first time since 1911. Internal strife had prevented the taking of a census in 1921. The results of the census have been noted in the paragraphs on Area and Population, above, and in the articles on IRELAND, *NORTHERN*.

In November there were serious riots and outbreaks in many districts of Ireland, which necessitated the passing of a public safety act and the establishment of a virtual state of siege in the affected districts. After a few days quiet was resumed. The belief was prevalent that the disorders were caused by the strengthening of the Irish-British bonds during the meetings of the British Imperial Conference. See *GREAT BRITAIN, History*.

**IRON AND STEEL.** The iron ore mined in the United States in 1926, exclusive of ore that contained 5 per cent or more of manganese in the natural state, was estimated by the U. S. Bureau of Mines, Department of Commerce, at 67,693,000 gross tons, an increase of 9 per cent as compared with that mined in 1925. The ore shipped from the mines in 1926 was estimated at 69,141,000 gross tons, valued at \$175,307,000, an increase of 8 per cent in quantity and of 9 per cent in total value as compared with the figures for 1925. The average value of the ore per gross ton at the mines in 1926 was estimated at \$2.54; in 1925 it was \$2.52. The stocks of iron ore at the mines, mainly in Michigan and Minnesota, apparently decreased from 10,795,630 gross tons in 1925 to 9,496,000 tons in 1926, or 12 per cent.

About 85 per cent of the iron ore shipped in 1926 came from the Lake Superior district, in which approximately 57,314,000 gross tons were

mined and 58,759,000 tons shipped, increases of 10 and 8 per cent, respectively, as compared with the quantities mined and shipped in 1925. The ore shipped in 1926 was valued at \$151,484,000, an increase of 9 per cent. These totals include the ore from mines in southern Wisconsin and ore shipped by rail as well as by water from all mines, but exclude manganiferous ores that contained 5 per cent or more of manganese in the natural state. The ore is chiefly hematite. The stocks of iron ore in this district apparently decreased from 9,468,624 gross tons in 1925 to 8,104,000 tons in 1926, or 14 per cent. The stocks at the end of 1926 were about 2,260,000 tons less than the average for the preceding five years. The shipments of iron ore by water from the Lake Superior district in 1926 (including manganiferous iron ores), according to the Lake Superior Iron Ore Association, amounted to 58,537,855 gross tons, an increase of 8 per cent as compared with these shipments in 1925. The average value of the ore at the mines in the Lake Superior district in 1926 was \$2.58; in 1925 it was \$2.57.

The mines in Minnesota furnished 69 per cent of the total iron ore shipped from the Lake Superior district in 1926 and 59 per cent of the total of the United States. The mines in Michigan furnished 28 per cent of the Lake shipments and 24 per cent of the grand total.

The Southeastern States, which constitute the second largest iron-ore producing area, including the Birmingham and Chattanooga districts, mined approximately 7,253,000 gross tons of iron ore in 1926, a decrease of 3 per cent as compared with 1925. The shipments of iron ore from these States to blast furnaces in 1926 amounted to 7,249,000 gross tons, valued at \$15,720,000, a decrease of 0.3 per cent in quantity but an increase of 4 per cent in value as compared with the quantity and value of the shipments in the previous year. The ore consists mainly of hematite; brown ore and magnetite come next in order. The average value of the ore produced in these States in 1926 per gross ton was \$2.17; in 1925 it was \$2.08. Conditions in Alabama and Missouri seem to have been more favorable during the year than in other parts of the South. The stocks of iron ore at the mines in this group of States, mainly in the Birmingham district, increased from 971,550 gross tons in 1925, to 975,000 gross tons in 1926. These stocks are about 349,000 tons more than the average for the preceding five years.

The Northeastern States, which include the Adirondack district, New York, and the Cornwall district, Pennsylvania, in 1926 mined 1,954,000 gross tons of iron ore and shipped 1,959,000 tons, valued at \$6,398,000, increases of 50 per cent in the quantity mined, 31 per cent in the quantity shipped, and 33 per cent in value of shipments as compared with 1925. Production in the Adirondack and Cornwall districts and at Fort Montgomery, N. Y., and Mt. Hope, N. J. was on an enlarged scale during 1926. The stocks of iron ore in this group of States increased from 341,357 gross tons in 1925 to 405,000 tons in 1926. These stocks were considerably less than usually carried over at these mines, being about 213,000 tons below the average for the preceding five years. The average value of the ore in these States in 1926 per gross ton was \$3.27; in 1925 it was \$3.22. Most of this ore is magnetite.



The Western States that ordinarily produce iron ore, named in order of their importance, are Wyoming, Utah, New Mexico, Colorado, Montana, and California. Occasionally Idaho, Nevada, and Washington contribute small quantities. All the ore from Wyoming, New Mexico, and Colorado and most of that from Utah is used for the manufacture of pig iron. Much of the remainder is used as a flux in smelting copper and the precious metals. It was estimated that the Western States mined in 1926 approximately 1,172,000 gross tons of iron ore, and shipped 1,174,000 tons, valued at \$1,705,000, increases of 24 per cent in the quantities mined and shipped and 7 per cent in value of shipments as compared with 1925. The ore comprises hematite, magnetite, and brown ore. The increase in output in this group of States in 1926 reflected the more active operations at mines in the Hartville district, Wyoming, in the Fierro district, New Mexico, and near Orient, Colorado.

**IMPORTS AND EXPORTS OF ORE.** The imports of iron ore reported for 1926 amounted to 2,555,441 tons, valued at \$5,876,319, or \$2.30 a ton. The imports for the year 1925 were 2,190,697 gross tons, valued at \$6,895,220, or \$3.15 a ton. The reported exports of iron ore for the eleven months ended Nov. 30, 1926, amounted to 868,710 gross tons, valued at \$3,380,701, or \$3.89 a ton, as compared with exports for the entire year 1925 of 630,521 tons, valued at \$2,411,093, or \$3.82 a ton.

The accompanying table shows the quantity and value of the iron ore mined and shipped in the United States by the principal producing States.

**PIG IRON.** The production of pig iron in the United States in 1926 was thought to be next to the highest on record, which was 40,361,146 gross tons in 1923. *The Iron Age* (New York) estimated the 1926 production (including charcoal iron) at 39,500,000 tons, or slightly above

of the year was the completion of two new merchant blast furnaces, one at Troy, N. Y., and the other at Everett, Mass., which made available nearly 1000 tons additional iron daily for the Eastern market, particularly New England, and made competition between these furnaces and producers in Eastern Pennsylvania and in New York.

For purposes of comparison, the outputs of pig iron and steel ingots, with total steel ingots and castings in 1926 and the preceding years covering the high production War years and those following, are given in the accompanying table from the *Iron Age*.

	Pig iron Gross tons	Steel ingots Gross tons	Steel ingots and castings Gross tons
1916.....	39,434,797	41,401,917	42,773,680
1917.....	38,621,216	43,619,200	45,060,607
1918.....	39,054,644	43,051,022	44,462,482
1919.....	31,015,364	33,694,795	34,671,232
1920.....	36,925,987	40,881,392	42,132,934
1921.....	16,688,126	19,224,084	19,783,797
1922.....	27,219,904	34,568,418	35,602,926
1923.....	40,361,146	43,485,665	44,943,696
1924.....	31,405,790	36,811,157	37,931,939
1925.....	36,700,566	44,140,738	45,393,524
1926.....	39,500,000	47,000,000	48,250,000

**STEEL.** The 1926 steel ingot production, according to the American Iron and Steel Institute, eclipsed all records, being a gain of nearly 7 per cent over 1925, and was placed at 47,133,517 tons, these figures being based on actual returns from 94¼ per cent of the industry. They compare with the 1925 production of 44,140,738 tons. The average rate of operations in 1926 was 84½ per cent capacity, which was considered remarkably high in view of the expansion of capacity of the United States during the War. The theoretical capacity as of Dec. 31, 1925, was 55,844,033 gross tons. The accompanying table shows the steel ingot output for the years 1926 and 1925, by months.

## STEEL INGOT OUTPUT IN 1925 AND 1926

[Gross tons]

	1925				1926			
	Monthly production companies reporting	Calculated monthly production all companies	Number of work- ing days	Approximate daily pro- duction all companies	Monthly production companies reporting	Calculated monthly production all companies	Number of work- ing days	Approximate daily pro- duction all companies
January.....	3,965,212	4,193,281	27	155,307	3,922,193	4,150,469	26	159,633
February.....	3,548,265	3,752,332	24	156,348	3,592,678	3,801,776	24	158,407
March.....	3,966,214	4,194,340	26	161,321	4,241,502	4,488,362	27	166,236
April.....	3,388,763	3,583,676	26	137,834	3,897,124	4,123,011	26	158,613
May.....	3,267,059	3,454,971	26	132,883	3,728,343	3,945,336	26	151,744
June.....	3,030,164	3,201,451	26	123,248	3,544,367	3,750,653	26	144,256
July.....	2,916,710	3,084,472	26	118,634	3,450,247	3,651,055	26	140,435
August.....	3,234,933	3,420,998	26	131,577	3,784,331	4,004,583	26	154,022
September.....	3,299,771	3,489,565	26	134,214	3,714,488	3,930,675	26	151,180
October.....	3,677,305	3,888,814	27	144,030	3,867,458	4,092,548	26	157,406
November.....	3,690,626	3,902,900	25	156,116	3,517,402	3,722,119	26	143,158
December.....	3,754,943	3,970,918	26	152,728	3,281,040	3,472,000	26	133,538
Total.....	41,739,965	44,140,738	311 av.	141,932	44,541,173	47,133,517	311 av.	151,555

the 39,434,797 tons of 1916. The output in 1925 was 36,700,566 tons. The pig iron prices were the lowest since 1916 and the composite price for the year averaged \$20.42, against \$20.58 in 1925 and \$20.90 in 1924. A five-year average, 1922-26 inclusive, was \$22.45, or \$2.03 above that for 1926. On Dec. 1, 1926, 213 blast furnaces, with a daily capacity of 105,860 gross tons, were in blast. The largest number was 237 furnaces, with a daily capacity of 115,150 tons, on May 1 and the smallest, 213 furnaces, was on December 1 and September 1. One of the events

The production of finished steel in American plants in 1926 was estimated at 34,782,000 gross tons, as against 32,660,000 tons in 1925. This is shown more definitely in the accompanying table from the *Iron Age*.

## ESTIMATED STEEL PRODUCTION IN 1926

	Gross tons
Heavy rails.....	2,949,000
Light rails.....	180,000
Track accessories.....	1,076,000
Plates.....	3,833,000
Structural shapes.....	8,872,000



ESTIMATED STEEL PRODUCTION IN  
1926—Continued

Steel bars .....	6,721,000
Strip, hoops, bands .....	1,836,000
Tin plate .....	1,874,000
Sheets .....	4,683,000
Pipe and tubes .....	4,129,000
Wire products .....	2,678,000
All other products .....	1,251,000
<b>Total .....</b>	<b>34,782,000</b>

The significant features of the year's production were the large amount of rails and pipes manufactured and the expansion in the demand from the oil industry. The production of heavy rails was greater than any time since 1913 and a new record was made in the output of pipes. The oil industry and mining apparently required 25 per cent more steel than in 1925.

**WORLD PRODUCTION.** In 1926 the world's steel production was estimated by *The Iron Age* at 89,500,000 tons, which was stated as a new record. Of this the United States produced approximately 48,250,000 tons, or about 54 per cent. In 1926, according to these estimates, the six leading countries—namely, the United States, Great Britain, Germany, France, Belgium, and Luxemburg—had a steel production of 77,515,000 tons, or about 1,000,000 tons greater than in 1925 and about 12,800,000 tons larger than in 1913, when the production was 64,700,000 tons. The output of pig iron, however, was less in 1926 than in 1913; the production of the six leading nations was estimated at 66,313,600 gross tons, as compared with 67,796,400 tons in 1913. France, Belgium, and Luxemburg produced more pig iron than steel.

As indicating the general condition of the iron and steel industry in 1926, it may be said that all countries except Great Britain made new records in both production and exports. In the case of Great Britain, naturally, the great coal strike was responsible for the smallest pig iron production since the World War, even less than in 1921 when there was world-wide depression. For Great Britain the output of pig iron was estimated at 2,418,500 tons, as compared with 2,616,000 tons in 1921, and 3,391,000 tons of steel were made, as compared with 3,705,200 tons in 1921. In fact, the British pig-iron production of 1926 was the smallest since 1886, when it amounted to 2,203,880 tons, and the steel production was the smallest since 1895, when the total was 3,259,900 tons.

As a result of this British decline in production, Germany took second place, making new post-war records, in steel production, with 12,117,400 gross tons, estimated, and exports of 4,823,500 tons, but not in pig iron, 9,394,700 gross tons, which was less than the 10,018,800 tons of 1925, but otherwise the largest since the War. In France the industry continued to expand in 1926, and the pig-iron production scored a record with 9,206,700 tons, as compared with 8,361,600 in 1925, 5,124,000 in 1913, and 3,380,400 in 1920. Of course, before the War there was no contribution by Alsace-Lorraine to the French total, and in 1926 it accounted for possibly 35 to 40 per cent. In steel, as well as in pig iron, all previous records were eclipsed, with an estimated output of 8,250,700 tons, which was nearly 80 per cent larger than in 1913, when 4,620,000 was the record. There was also an improvement over 1925, when the steel production was 7,299,600 tons. In the export field, also,

France increased the iron and steel sent abroad, 3,921,000 tons, and had become a factor to be reckoned with in world competition, standing next after Germany in the world's export markets. Belgium also scored new records with a pig-iron output in 1926 of 3,337,900 tons, or about one-third larger than that of 1925 and considerably in excess of any previous year. The steel production likewise was the largest recorded, being 3,313,400 tons, or about one-third larger than 1913, when it amounted to 2,427,600 tons. Luxemburg also in 1926 excelled any post-war year, with an output of 2,455,800 tons of pig iron (less, however, than in 1913), but with an increased output of steel; namely, 2,192,200 tons in 1926, as compared with 1,308,000 tons in 1913.

**IRON, ELECTROLYTIC, FROM SCRAP.** See **CHEMISTRY, INDUSTRIAL.**

**IRRIGATION.** See **RECLAMATION.**

**ISLAND UNIVERSES.** See **ASTRONOMY.**

**ISTRIA.** A former crownland of Austria, but since the war a part of Italy. This region includes the peninsula extending from Trieste to Carniola into the Adriatic together with a few islands. Area, 2035 square miles; population, according to the census of 1921, 342,979. Capital, Capodistria, with a population of about 9000.

**ITALIAN ARCHÆOLOGY.** See **ARCHÆOLOGY.**

**ITALIAN LANGUAGE.** See **PHILOLOGY, MODERN.**

**ITALIAN SOMALILAND,** sō-mh'lelānd. A colony and three protectorates of Italy, making up the territory that extends along the east coast of Africa from British Somaliland and Kenya Colony to the Juba River. Area, approximately 154,000 square miles; population, about 650,000 (750 Italians). The colony was formerly known as Benadir, but the official title is now Italian Somaliland. It extends from 4°40'N. latitude to the mouth of the Juba River and is divided into three administrative districts. Mogadiscio is the capital with a population of about 20,700. The three protectorates are: The Sultanate of the Mijertins, under an Italian commissioner who resides at Alula; the territory of the Nogal between Cape Gabbee and Cape Garad; the Sultanate of Obbia, extending from the northern boundary of the colony of Benadir to Cape Garad, under an Italian commissioner, resident at the capital, Obbia. The chief occupations are agriculture and stock raising, the latter engaging about half the population. The principal exports are cotton, amber, iron, myrrh, copper, tobacco, and grains. The principal imports are cotton and cotton yarn, textiles, coffee, petroleum, rice, tobacco, sugar, fats, soap, cereals, flour, and preserved products. The governor in 1926 was Count Cesare de Vecchi (appointed in 1923).

**ITALY.** A constitutional monarchy of southern Europe, comprising besides Italy proper, the islands of Sardinia, Sicily, Elba, and some 70 other small islands, together with the territory on the eastern shore of the Adriatic acquired as a result of the Treaty of St. Germain, and arrangement with Jugo-Slavia in 1920. Capital, Rome.

**AREA AND POPULATION.** The area of Italy before the war was 110,632 square miles, with a total population on Jan. 1, 1915, of 36,120,118. The area as a result of the survey made at the time of the census of 1921 is 119,624 square miles and the population according to that

census, 38,755,576; estimated in 1926 at 42,115,606. The movement of population in 1924 was: Births, 1,123,260; deaths, 661,020; marriages, 307,145. The total number of emigrants in 1924 was 304,614, of whom 230,332 went to other European countries or those bordering on the Mediterranean, and 125,282 to countries overseas. The emigrants in 1925 totaled 312,038. In 1924, 61,832 Italians returned to Italy, 40,305 coming from the United States and Canada. In 1925 182,542 Italians returned to the mother country. The cities with a population of more than 175,000 as estimated on Jan. 1, 1924, were as follows: Bologna, 218,481; Catania, 258,030; Florence, 260,651; Genoa, 322,774; Messina, 181,732; Milan, 852,922; Naples, 784,464; Palermo, 405,236; Rome, 720,494; Turin, 503,075; Trieste, 238,655; and Venice, 200,239.

**EDUCATION.** Under the law of 1923 elementary instruction is given in three grades, namely, preparatory (three years), secondary (three years), and higher (two years). In the elementary grade, all classes above the fifth are regarded as special classes of professional training. The secondary schools are divided into two grades. No recent figures were available for elementary and secondary schools, particularly under the new system. In 1926 there were 24 universities, including four that were free, besides university courses given in certain lyceums. There were, in addition, certain institutions of university rank, namely, the Institute of Higher Education at Florence, the Royal Scientific and Literary Academy in Milan, and the Higher Technical Institute of Milan. There are higher institutions for commercial education at Rome and other cities; also higher schools for agriculture, engineering, and various schools for technical education.

**PRODUCTION.** Italy is a densely populated country and has scanty natural resources. Comparatively few staple foodstuffs needed for popular consumption and an exceptionally small proportion of the raw or semifinished materials required by the country's developing industries are produced within its borders. Consequently there is a dependence on imports from abroad to keep the people fed and the industrial plants supplied with needed materials. The accompanying table from the *Statesman's Year Book* for 1926 gives the acreage and yield of the principal crops for 1924 and 1925:

	Acreage	
	1924	1925
Wheat . . . . .	11,415,750	11,767,539
Barley . . . . .	579,000	575,510
Oats . . . . .	1,194,250	1,200,361
Rye . . . . .	313,500	301,220
Maize . . . . .	3,765,500	3,853,200
Rice . . . . .	343,750	355,433
Beans . . . . .	1,191,750	1,196,221
Potatoes . . . . .	870,250	854,867
Sugar beet-root . . . . .	306,280	
Vines . . . . .		
Olives . . . . .		
	Produce in cwt.s.	
	1924	1925
Wheat . . . . .	46,306,000	65,548,000
Barley . . . . .	1,891,000	2,800,000
Oats . . . . .	4,833,000	6,891,000
Rye . . . . .	1,553,000	1,703,000
Maize . . . . .	28,870,000	27,000,000 <sup>a</sup>
Rice . . . . .	5,914,000	6,294,000
Beans . . . . .	3,224,000	5,025,000
Potatoes . . . . .	19,599,000	21,647,000
Sugar beet-root . . . . .	74,418,000	
Vines <sup>a</sup> . . . . .		921,496 <sup>b</sup>
Olives <sup>a</sup> . . . . .		194,217 <sup>b</sup>

<sup>a</sup> Produce in thousand gallons.

<sup>b</sup> Provisional figures.

In 1924 there were 677 productive mines, employing 45,353 workers and producing metals valued at 540,889,252 lire. The more important minerals, according to value were, sulphur ore, zinc, mineral fuel, lead, iron and cuprous pyrites, and mercury.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, Italian industry's growing necessity for larger foreign sales has suggested the creation of a new export bureau, which, although under government supervision is largely directed by representatives of the larger export industries. Italian production is peculiar in that it comprises innumerable small establishments which are not in position to maintain direct contact with foreign markets. The important part which these small producers play in the national output has shown that successful marketing of characteristically Italian products in foreign fields is scarcely possible save through the establishment of an agency which includes a personnel intimately cognizant of trade trends, and at the same time under completely nonpartisan control such as only state supervision could give.

Modern needs of commerce have influenced the government to establish an organization which would have greater legal, administrative, and financial autonomy so as to preserve the freedom of action deemed necessary to an organization of this type. The new institution which was authorized to begin operations of July 1, 1926, is called the National Institute for Export. Its general policies will be determined by a council consisting of a president who is appointed by the King at the suggestion of the Minister of National Economy, and 39 members. Of the latter, 11 are government officials representing the various ministries interested in export problems, 9 are representatives chosen by trade associations, and the remaining 19 are appointed directly by the Minister of National Economy. For the execution of the policies dictated by this council a technical or executive committee, consisting of eight members selected from the membership of the council, is to be appointed. The actual administration of the institute is in the hands of the director general, Dr. Raffaele Pilotti. The scientific study of foreign markets is the main object of the National Institute for Export.

The Italian export trade, with the exception of the year 1921 when there was a slight recession, has shown a steady growth. On the import side the larger totals are a result of the growing needs of the home market for domestic consumption and for raw materials for export products. The unfavorable trade balance is considerably greater than before the war, although the percentage of exports to imports tends to approximate the pre-war figures, as shown in the accompanying table:

VALUE OF ITALY'S FOREIGN TRADE  
[In thousands of dollars <sup>a</sup>]

Year	Imports	Exports	Exports in percentage of imports
1913 . . . . .	703,608	484,746	69
1923 . . . . .	790,977	510,456	64.5
1924 . . . . .	844,566	626,283	74
1925 . . . . .	1,041,066	726,964	69.8

<sup>a</sup> Conversions made at the following rates of exchange for the lira: 1913 at par, or \$0.193; 1923 at annual average, or \$0.046; 1924 at \$0.0436; 1925 at \$0.0398.

**FINANCE.** Revenues and expenditures in the Italian budget for the fiscal year 1926-27 showed increases over the budget for 1925-26. The accompanying table gives a comparison of the two budgets, excluding the changes introduced in the 1925-26 budget since its adoption, in order to give a better basis for comparison:

**SUMMARY OF THE ITALIAN BUDGET, 1926-27**  
[In million lire, paper; and as originally presented]

Classification	1925-26	1926-27
Effective revenues:		
Ordinary .....	16,969.5	18,067.2
Extraordinary .....	425.1	691.0
Total .....	17,394.6	18,758.2
Effective expenditures:		
Ordinary .....	13,487.5	14,099.9
Extraordinary .....	3,729.2	4,349.4
Total .....	17,216.7	18,449.3
Surplus .....	177.9	314.9

The principal changes in items included in the budget consist in (a) the exclusion of receipts and expenditures for the postal, telegraph, and telephone services, merely inserting the surplus among receipts; and (b) the inclusion among effective expenditures of the regular appropriation for railroad construction, which has hitherto been placed in a separate category together with revenues to meet the expense.

As compared with the previous budget, the 1926-27 revenues show an advance of 1,363,600,000 lire; but even this figure does not represent the full extent of the increase, since gross revenues from posts, telegraphs, and telephones (amounting to 904,000,000 lire in the 1925-26 budget) are no longer included, and this is offset in part by the inclusion of receipts to meet railroad construction which usually are fixed at 250,000,000 lire. As no new important sources of revenue have been opened, it is evident that considerably less conservatism has been shown in estimating income for the 1926-27 budget than has been exercised in the past. The trend of the returns for the first eight months of the 1925-26 fiscal year justified the increase; revenues were not only 1,617,400,000 lire higher than the budget quota for the period, but also showed an advance of 896,700,000 lire over the corresponding months of 1924-25. A similar tendency is shown in the case of expenditures, which have advanced by 1,226,600,000 in spite of the exclusion of the posts, telegraphs, and telephone expenditure. Credits for numerous supplementary operations have been continually allowed during the course of past fiscal years, so that actual payments have always considerably exceeded budget estimates. This may be illustrated by developments during the 1925-26 fiscal year, when effective expenditures exclusive of the postal budget, amounted to 16,404,700,000 lire at the opening of the fiscal year. By Feb. 28, 1926 an increase of 2,199,400,000 lire in expenditures had been allowed, making a total estimate for the year 18,604,200,000 lire.

Whereas the surplus indicated in budget estimates for 1925-26 was 178,000,000 lire in amount, returns for the first eight months of the year showed a surplus of 338,000,000 lire. The experience of past years makes it seem certain that this surplus will be increased by the end of the fiscal year. At the end of February, 1925, a deficit of 487,000,000 lire was registered; but at the end of the year this had been eliminated

and a surplus of 417,000,000 lire accumulated. It was expected that the surplus for 1925-26 would surpass 500,000,000 lire; and in spite of the more liberal estimates of receipts for 1926-27, no reversion to a deficit was anticipated.

**COMMUNICATIONS.** In 1924 211,770 vessels of 54,054,762 tons entered at Italian ports and 211,522 vessels of 53,896,931 tons cleared. The total mileage of state railways on June 30, 1925, was 10,237 miles; receipts in 1924-25, 4,302,055,691 lire; expenditure, 4,126,264,652 lire. The government proposes to electrify its entire system. By the middle of 1924, 858 miles had already been electrified. By royal decree law of April 1, 1926, the government of Italy granted a concession to the Societa Italiana di Navigazione Interna, having offices at Venice and a capital of 20,000,000 lire, for carrying out the work of opening and completing the following navigable lines in the Po valley; (a) Trunk line Oriago-Padua from the Venice-Padua waterway, and terminal port; (b) completion of the Ferrara network and relative access from the Po to Pontelagoscuro; (c) trunk connecting the (Inocca Po with the Goro Po; (d) completion of the fluvial port of Mantua; (e) completion of the fluvial port of Cremona; (f) settlement of the minor landing stages along the Po. The cost of the above works is estimated at about 60,000,000 lire, of which 36,000,000 lire will be contributed by the state from the budget of the ministry of public works and 24,000,000 lire by interested local bodies, the latter sum to be advanced by the state against future payments. Payment for the work will be divided over a period of ten years.

According to the report of the Administration of the Italian State Railways for the fiscal year 1925-26, the movement of passengers showed an increase of about 6 per cent and goods traffic of 2.71 per cent in the tonnage loaded. The distance covered daily by passenger trains, thanks to the opening of new lines, rose from 203,000 to 221,000 kilometers, thus reaching pre-war density. Despite the increase of traffic and services rendered, the average number of persons employed decreased, compared with the previous year, from 174,600 to 171,900. In 1925-26 the net surplus reached 378,000,000 lire, representing the difference between receipts totaling 5,067,000,000 lire and expenses of 4,689,000,000 lire. Receipts have increased by 765,000,000 lire; expenses have increased by 563,000,000 lire, that is, in smaller proportion than receipts. Important electrification work has been completed, together with improvements of lines, stations, workshops, and warehouses.

**ARMY AND NAVY.** Liability to military service beginning at the age of 20 and lasting 19 years is compulsory and universal. The strength of the active army in 1925 was 18,000 officers and 308,000 men. See **MILITARY PROGRESS.**

The accompanying table taken from the *Statesman's Year Book* for 1926 shows the classification of the navy in 1924 and 1925:

	Completed at end of 1924	1925
Battleships .....	5	5
Battleships for Coast Defense .....	2	2
Armored cruisers .....	3	3
Light cruisers .....	10	10
Flotilla leaders and destroyers .....	61	61
Torpedo boats .....	65	64
Submarines .....	41	42

**GOVERNMENT.** Executive power is vested in the king, who acts through a responsible ministry, and legislative power in the king and parliament, the latter consisting of two chambers; a senate, which on Jan. 1, 1924, had 387 senators and nine members of the royal family; and a chamber of deputies, with 535 members, elected on the basis of universal suffrage, male and female, and proportional representation. By the electoral law of Feb. 15, 1925, Italy reverted to the single member constituency system, which it was intended to put in force at the next election. The Chamber of Deputies, elected in April, 1924, was divided among the political groups as follows: Fascisti, 375; Catholics, 39; other constitutionalists, 45; Socialists, 46; Communists, 19; Republicans, 7; Slavs and Germans, 4. The King during 1926 was Victor Emmanuel III, born Nov. 11, 1869, who succeeded his father, King Humbert I, July 29, 1900. The cabinet as reorganized on Aug. 30, 1925, was constituted as follows in 1926: Actual Head of the Government, Prime Minister, Secretary of State, Minister of Foreign Affairs, Minister of Aeronautics (ad interim), Benito Mussolini; Interior, Luigi Federzoni; Colonies, Pietro Lanza Di Scalea; Justice, Alfredo Rocco; Finance, Giuseppe Volpi; War and Marine (ad interim) Benito Mussolini; Public Instruction, Pietro Fedele; Public Works, Giovanni Giuriati; National Economy, Giuseppe Belluzzo; Communications, Costanzo Ciano.

#### HISTORY

**RÉSUMÉ OF THE YEAR.** The following brief résumé of the year appeared in the *New York Sun* on December 21. The year 1926 may be defined in Italy as the year establishing the complete internal domination of Fascism by Premier Mussolini. Having consolidated the revolution of 1922, and reduced all political opposition to a minimum, Mussolini was in a position to turn his attention to the numerous problems facing his country. He was at the head of six ministries, namely those of War, the Marine, Aviation, Foreign Affairs, the newly created ministry of the "Corporazioni" and the Interior. Under his guidance immense activity has been displayed in all these state departments.

From the point of view of legislation, the most important and revolutionary measure of the year was the creation of the Fascist "sindicati" of trades unions. This measure has been described by the Fascist press as being the cornerstone of the régime. It carries the authority of a highly centralized government into every form of the nation's activities. By it, the State regulates the condition of labor, the rate of pay, abolishes strikes, and brings its control into even the smallest details of industrial and commercial enterprise. Every one in the country must belong to a union of "corporations" which in turn, depends on a "supercorporazione" itself depending again on one of the six great national "corporazioni." Not only are workmen and operatives obliged to belong to their proper union, but professional men, merchants and shopkeepers must be enrolled in their respective syndicates. Theoretically no worker can find employment unless he belongs to a regular Fascist union, and practically it is extremely difficult for him to do so. Neither can he claim wages due or compensation of any kind if he is not properly inscribed. The strike is abolished. In cases of disputes concerning wages or

salaries, special courts have been established to settle the matter. The new syndicalist law of 1926 ordained that rates of pay and conditions of labor were to be fixed by the Fascist unions, and masters and men must abide by them. The ministry governing this complete organization is that of the "Corporazioni," and is directed by Mussolini himself.

The "Duce" had three unsuccessful attempts made on his life in 1926. These took place respectively in April, September and October. The first was made by an Englishwoman, the Hon. Violet Gibson, who shot at Mussolini on the steps of the capital, and wounded him slightly in the nostrils. The second attempt was carried out by the anarchist Gino Lucetti, who threw a bomb at the premier's automobile when he was on the way to the Chigi Palace. On this occasion Mussolini escaped without any injury. The third attempt was that of the fifteen-year-old boy, Anteo Zamboni, at Bologna. Zamboni shot at Mussolini in his car but the bullet merely grazed his tunic and did him no injury. As a result of these frequent attempts on the Premier's life, the death penalty was reintroduced into Italian legislation. Under the new law voted by the Chamber in November, anyone attempting the life or security of the King, Queen, Crown Prince, or Premier, will in future be tried by Fascist military tribunals, and sentenced to death. The tribunals will be composed of officers of the black shirt militia presided over by a superior officer of the army or navy.

Another important piece of legislation introduced during 1926 was that of the revival of the office of "podesta." This is really a revival, with modifications, of a medieval Italian office. Under the modern law, the podesta takes the place of the municipally elected mayor or "sindaco" and is appointed by the central government and is responsible to it alone. The office of podesta is, at present, confined to communes having less than 5000 inhabitants, but it will gradually be extended to all the communes of Italy.

Reforms of the state bureaucracy and the juridical system were also inaugurated in 1926. Numbers of small tribunals, including many sub-prefectures were abolished. The courts of appeal, or courts of "cassation" were reduced in number, and the payroll of the State's employees was cut down considerably. The right to vote at municipal elections was extended to women possessing certain age and property qualifications, but the measure has become partially inoperative, and will later become entirely so through the creation of the office of podesta and the consequent abolition of municipal elections.

Two great well-advertised campaigns were initiated by the government in 1926: "The battle of the lira" and "the battle of the grain." A determined effort to improve the value of the lire was made in the autumn of 1926, and the results proved very successful. Finance Minister Volpi deposited almost the entire Morgan loan of \$100,000,000 with the Bank of Italy, and the paper circulation was fixed at seven billion lire, increasable to eight. The three note issuing banks were reduced to one, the Banca d'Italia; the banks of Sicily and Naples had their authority to issue notes withdrawn. Silver coinage of 5 and 10 lire pieces was reintroduced. Restrictions on imports were put into effect. A national type of bread was ordered to be made



*Keystone*

**GENERAL PRIMO DE RIVERA**

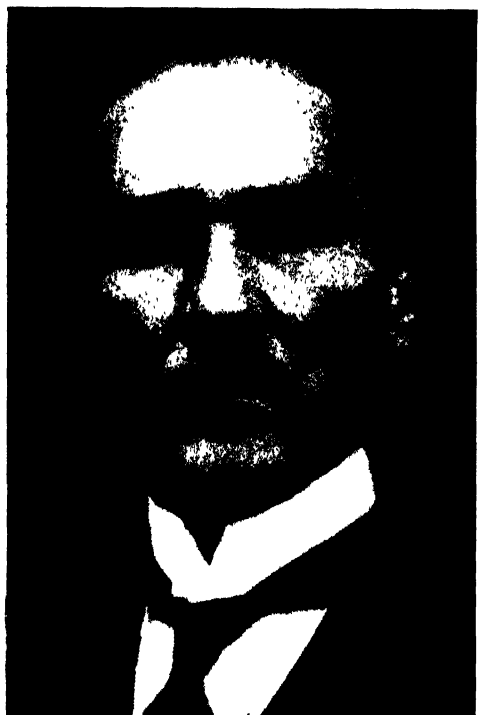
President of the Council,  
Spain



*P. & A. Photos*

**BENITO MUSSOLINI**

Prime Minister,  
Italy



*P. & A. Photos*

**MUSTAPHA KEMAL**

President of the Republic,  
Turkey



*Keystone*

**MARSHAL JOSEPH PILSUDSKI**

Revolutionist Leader,  
Poland



all over the country, containing a percentage of other cereals than wheat. One of the largest financial operations of the year was the issue of the "Lictorial Loan," by which short term treasury bonds were converted into consolidated stock, redeemable in 1926.

In the realm of foreign affairs the year 1926 was a very busy one for Italy. Treaties, political, commercial, or both were signed with Spain, Rumania, Albania (q.v.), Czecho-Slovakia, Jugoslavia, Switzerland, Bulgaria, Lithuania, Finland, and the Yemen, besides a number of minor Oriental states. One of the most important political treaties of the year was the pact of friendship with Spain. Italy consolidated her debt with Great Britain.

Regarding aviation, Italy's important share in the success of the Amundsen-Ellsworth-Nobile north pole expedition must be noted. Much progress was made both in military and civil aviation. Civil air lines were inaugurated between Brindisi and Constantinople, Venice and Vienna, Palermo and Genoa, Turin and Trieste, and Trieste and Zara in Dalmatia. Further railway electrification was accomplished in North Italy, opening the section between Genoa and Leghorn. From Leghorn to Modane, on the frontier, the whole line had been electrified, and is the longest stretch in Europe. Hydro-electric plants were built in north Italy. A number of important land reclaiming schemes, especially in northern and central Italy, were completed. Some of these tracts of recovered land had already been sown with grain and will form useful adjuncts in Italy's "battle of the grain."

The relations between the State and Church continued to be excellent, and the reintroduction of the crucifix into the national schools was tactful and was appreciated by the Vatican.

**THE SOUTHERN TYROL QUESTION.** At the beginning of the year there was tremendous discussion throughout Italian and German speaking countries over the obvious attempt on the part of Mussolini to Italianize the Southern Tyrol, which had been turned over to Italy by the Peace Conference. Shortly after the Italian parliament opened in January, Mussolini made a spread-eagle speech concerning the Upper Trentina, as it is called in Italy, or Southern Tyrol, as the Germans and Austrians call it. He declared: "We will apply, rigorously, methodically, obstinately, with a system of cool tenacity which is typical of *Fascismo*, all our laws to the inhabitants of the Upper Adige. I refer both to those this Chamber has voted and those it will vote in the future. We will render that region Italian because it is Italian, both historically and geographically. The boundary of the Brenner Pass is a frontier traced by the infallible hand of God." In other parts of his speech he bitterly assailed Germany for her interest in the affair and delicately suggested forcible means to keep her interest away from Southern Tyrol.

Dr. Stresemann, the German Foreign Minister, replied to Mussolini in a speech in the Reichstag on February 9, in which he recalled the promises of Italy to respect the rights of minorities in the Tyrol district when the Treaty of Versailles was signed, and showed how these rights were being denied under Italy's policy of degermanizing the district and Italianizing it. In replying to Stresemann on February 10 Mussolini stated: "The alien population of the Upper Adige is

outside of those minorities who were the object of special accord in the peace treaties. Italy will not engage in any discussion of that matter by any Assembly or Council, and because of that the action of the Tyrol Diet (for intervention by the League of Nations) is useless. The Fascist government will react with the greatest energy against all plans of such a nature, because it would consider itself guilty of the crime of treason if for 100,000 Germans who made a descent on Italian soil it should compromise the peace and security of 42,000,000 Italians, who surely form a national bloc, the most homogeneous and compact existing in Europe." As time went on the friction between Germany and Austria on the one hand and Italy on the other gradually quieted down but the Italianizing of Southern Tyrol was carried out thoroughly. All the shopkeepers had to place signs outside their stores in the Italian language, the Italian flag had to be shown everywhere, and all other such manifestations as were common in Poland before the War were exhibited in the Tyrol region.

**THE MATTEOTTI AFFAIR.** The trial of the murderers of Giacomo Matteotti, a strong anti-Fascist leader, was held on March 16. (For the details of this case and the serious political upheavals which it caused consult the two preceding YEAR BOOKS.) As was expected the affair turned out to be more or less of a farce. The five men who were charged with the murder were all more or less prominent Fascists, and were defended by Farinacci, the Secretary-General of the Fascist Party. He brought into the trial a long tirade to the effect that Matteotti was a dangerous enemy of the country because of his advocacy of Socialism and that he was not murdered but had been merely kidnapped and had died as a result of bruises sustained in the struggle with his kidnapers. Two of the accused men were acquitted and the other three were sentenced to approximately six years in prison, but inasmuch as an amnesty law had been passed and they had already spent some time in prison, the sentence virtually meant two and a half months incarceration.

**THE VISIT TO TRIPOLI.** In April Mussolini made a trip to Italy aboard the Italian battleship, *Conte de Cavour*. This occurred the day after his attempted assassination by Violet Gibson and after his narrow escape had been widely acclaimed throughout Italy. The press in foreign countries attributed this colonial voyage of the "Duce" to a desire to emphasize Italy's colonial empire and possibly her desire to obtain a predominant position in northern Africa. He continually referred on his visit to the glories of the Roman Empire of the past and the possibilities of the future. Mussolini made several public attempts to allay the fears of foreign nations that he was thinking of making the Mediterranean an Italian Sea.

**MEASURES TO AID TRADE BALANCE.** According to *Current History* (New York) for August, the following restrictions and regulations were made by the Italian government to remedy Italy's heavy adverse trade balance. The decrees were announced on January 29.

1. The increase of the working day from eight to nine hours.
2. Restriction of daily newspapers to six pages and the prohibition of all special supplements, excepting technical ones.

8. Prohibition of the opening of new bars, cafés, hotels, cabarets, pastry shops and all-night dancing resorts.

4. Prohibition of the construction of private houses and villas of a luxurious type. The only new construction permitted is of cheap houses for workers, farm laborers and small-salaried employees, farmhouses or cooperative apartments representing the direct investment of small private savings. Special governmental aid is given for the building of cheap houses for employees of large industrial establishments.

5. Announcement that agreements have been reached for the reduction in price, without affecting the quality, of iron, cement, bricks and plaster.

6. Announcement that steps had been taken to help large employers open canteens in order to sell food to their employees at minimum prices.

7. Announcement that agreements had been reached with industrialists to help in the production of domestic metals.

8. The appointment of a special committee to help in the utilization of domestic fuels and minerals and to stimulate their production.

9. Authorization of the mixing of gasoline with alcohol, effective November 1.

10. The indefinite suspension of all provincial, communal and municipal elections.

**TREATY WITH RUMANIA.** On September 18 there appeared a copy of the treaty signed between Rumania and Italy. The two countries agreed to work together for the maintenance of international order and agreed to lend police and diplomatic support to carry out this idea. Arbitration was provided for and provision made for the completion of a commercial treaty. Rumanian public opinion was somewhat opposed to the treaty because no mention was made of the Italian recognition of Rumania's claim to Bessarabia. It was thought that Mussolini purposely omitted this so as not to antagonize Soviet Russia.

**FOURTH ANNIVERSARY OF FASCISM.** According to *Current History*, the anniversary of the advent of Fascism was commemorated throughout Italy with a four-day celebration from October 28 to October 31. Schools were closed, leading members of the party were delegated to speak at the more important cities and great stress was laid on youth as the hope of the future. On October 28, in the presence of a huge throng in the Coliseum, Mussolini reviewed the achievements of Fascism as follows:

The fourth celebration of the "March on Rome" finds the Fascist Government in a formidable position of power in the interior and prestige throughout the entire world.

All the forces of the party and the Government, the militia, the labor unions, the youthful and the cultured elements, all have contributed in a period of splendor to make the Fascist system strong as a granite mountain against which falls flat the rancor of the dispossessed, the plots of criminals, impotent calumnies.

The Fascist régime has established itself during the past years as an impenetrable structure. In present times the life of individuals and of peoples is a little too fast, and it is necessary to-day to arrest it briefly, like a halt during a march, just long enough to review the work accomplished in the course of one year.

This work is imposing. In the political realm fundamental changes have been realized, conforming to our own doctrine, notably, the creation of a Governorship of Rome, which has given the capital the place of priority due her, historically and nationally.

Here is a group of laws which have changed the physiognomy of the State: A law defining the attributions of the Prime Minister; laws against bureaucracy and secret societies; a law on the faculty of the executive power; juridical rules governing the periodical press; laws relating to the conduct of the commission for the reform of the legal code for the protection of motherhood and infants.

The *coup de grâce* was dealt to semi-suffrage by extending the power of the Provincial Prefects and the establishment of Podestats in villages and towns.

The first civilian air forces are grooving through Italian skies and will increase. I do not exaggerate if I say that to-day the whole armed forces of the na-

tion are at their highest point of efficiency with regard to morale, discipline and preparedness.

In the domain of social and economic activities, the work of Fascism has been redeeming. The Fascist system gave to Italy in three months a law on the rights of authorship to literary men and artists, after they had vainly tried to obtain it for thirty years. We have created provincial and national economic councils and the National Institute for Exports and bureaus and scientific bodies for the development of our national resources.

Now, after thirty years of debate, we have accomplished unification of banks of emission into one bank, an essential reform.

We are enlarging and utilizing the ports of Genoa, Leghorn, Civitavecchia, Naples, Palermo, Catania, Cagliari, Bari, Ancona, Ravenna, Venice, Trieste and Fiume. The Italian merchant marine by pure pluck has won second place in Europe's mercantile fleet and fourth rank in the world's tonnage.

We have created a syndicalist-corporative State of thirteen federations, uniting millions of producers, something never done in history before, and that State has a vast base. The creation of the Ministry of Corporations, of which I am the head, is a new feat in the constitutional life of Italy.

We have also organized systematic exploration of our soil to determine the existence of iron and petroleum. The work of reclamation continues actively. The Pontine marshes, which for 2000 years awaited reclamation, are soon to be a salubrious and fertile zone, traversed by a direct Rome-to-Naples railway, which will be opened to traffic next year.

In the field, the farmers enlisted by Fascism with enthusiasm have won the battle of grain, producing 60,000,000 quintals, which demonstrates that victory is possible and will be attained.

The Fascist Government, after having settled the debts with the United States and Great Britain, concluded a treaty of commerce, amity and navigation with Yugoslavia, and a pact with Great Britain concerning common interests in Abyssinia, a treaty of commerce with Siam, an arbitration pact with Spain and one with Rumania, a treaty of commerce with Guatemala, a treaty of friendship with the Yemen (Arabia).

I ask if there ever was in Italian history such an amount of work achieved in one year? Black Shirts, the work accomplished in four years is truly great. But that is not enough. We have only started, and much remains to be done. All this requires more time, more efforts, more sacrifices to change in its entirety the physical and moral aspects of our country. The battle-cry must always be: "Discipline, concord, political and moral intransigence."

Having changed the laws we must reform our morale—those traits which remain from the old and petty-democratic liberal Italy. These must be eliminated without compassion from our minds and destroyed forever. They manifest themselves yet under the guise of selfishness, profiteering, opportunism and other useless things. Fascists, on the other hand, must be the sanctuary of loyalty, disinterestedness, probity, courage and tenacity.

All those affected by this old malady must be banished from our army; they must be weeded out before the grain is harvested; they must perish so that our new aristocracy may live for the greater task of the morrow.

Black Shirts! These tasks will find you ready. To-day you are in arms in hundreds of thousands. Your bayonets not only represent the Government, but the whole Italian people.

We announce to the world this truth: The Fascist revolution comes from the moral patrimony of the Italian people and will make Italy great.

For an account of the Garibaldi affair see *FRANCE, History*. See also, LEAGUE OF NATIONS; ALBANIA; ABYSSINIA; PEACE and PEACE MOVEMENTS.

**IVORY COAST.** A French colony, forming a constituent part of the government-general of French West Africa, situated between Liberia and the British Gold Coast. Area, about 121,976 square miles; population, estimated in 1924 at 1,301,832, of whom 1053 were Europeans. Bingerville is the capital and has an European population of about 90. The principal commercial products are mahogany, palm oil and kernels, cacao, dried and smoked fish, cotton, and rubber. Some gold has been found. In 1924 the imports amounted to 77,223,950 francs and the exports to 111,768,596 francs. The budget of the colony



for 1924 was fixed at 16,778,280 francs. The ports of the colony are visited by several British, French, and Belgian steamship companies.

**JALCASE.** See CHEMISTRY, INDUSTRIAL, under Iron.

**JAMAICA.** A colony of Great Britain, consisting of the island of Jamaica, which is the largest in the British West Indies, and the following dependencies: Turks and Caicos Islands, Cayman Islands; Morant Cays; and Pedro Cays. Area of Jamaica, 4450 square miles; of the dependencies, 224 square miles. Population of Jamaica, according to the census of 1921, 858,188, including 660,420 blacks, 157,223 colored; 14,476 whites; 18,610 East Indians; and 3696 Chinese; estimated population at the end of 1924, 904,405. The movement of population in 1924 was: Births, 33,132; deaths, 19,592; marriages, 3168. Kingston, the capital, had a population of 62,707 at the census of 1921. In 1924 there were 684 public elementary schools, with 113,293 pupils enrolled and an average attendance of 68,408. In 1924-25 the acreage under cultivation was 1,110,448 acres, apportioned as follows: under tillage, 276,224; pasture, 834,224; sugar-cane, 46,767; coffee, 17,800; bananas, 79,145; coconuts, 39,510; cocoa, 7877; ground provisions, 57,525; mixed cultivation, 21,657; guinea grass, 106,390; commons, 666,993. The livestock included 114,436 cattle and 4416 sheep. In 1924-25 the imports were valued at £5,085,350 and the exports at £3,145,610. Chief among the exports were bananas, sugar, rum, coconuts, coffee, logwood extracts, cocoa, and logwood; among the imports, flour, cotton goods, and fish. Aside from an electric railway in Kingston, the only rail transportation on the island is the Jamaica government railway, with a length of 210 miles. Revenue in 1924-25, £1,922,963; expenditure, £2,022,746; public debt, £4,445,194. Governor, Sir R. E. Stubbs (appointed in 1925 and assumed office April 27, 1926).

On November 16, the legislature of Jamaica rejected the new constitution which had been prepared for the island by the British Colonial office. The reason for rejection was given as objection to a clause which gave the Governor an absolute veto in any matter of paramount importance. This clause was considered to be more important by the legislature than the extension of powers of the Jamaicans over their own government by the creation of an Executive Committee, upon which five elective members should have seats.

**JAPAN.** A Far Eastern empire, consisting of the five main islands of Honshiu (mainland), Shikoko, Hokkaido (Yezo), and Formosa or Taiwan; also a number of smaller islands and island groups (approximately 4000 islands), and the peninsula of Korea or Chosen, and Karafuto, i.e., the southern half of the island of Sakhalin. Capital, Tokyo.

**AREA AND POPULATION.** The total area of the Japanese Empire is given at 260,707 square miles, made up chiefly as follows: Honshiu, 86,775; Korea, 85,228; Hokkaido, 30,275; Kiuashiu, 15,588; Formosa, 13,840; Karafuto, 13,934; Shikoko, 7031; Curile or Chisima Islands, 6024. In 1920 the total population of the Japanese Empire according to the census of that year was 76,988,379, distributed chiefly as follows: Honshiu (Japan proper), 55,961,140; Korea, 17,264,119; Formosa, 3,655,308; Karafuto, 105,

899. The population of Japan proper, according to the census of 1925 was placed at 59,730,704. The movement of population in 1924 was: Births, 1,998,520; deaths, 1,254,946; marriages, 513,130; divorces, 51,770. The population of the principal cities at the census of 1920 was: Tokyo, 2,173,201; Osaka, 1,252,983; Kobe, 608,644; Kyoto, 591,323; Nagoya, 429,997; Yokohama, the port of Tokyo, 422,942; Nagasaki, 176,534; and Hiroshima, 160,510.

**EDUCATION.** The latest statistics available on education are those found in the *Japan Year Book* for 1926 and cover the school year 1921-22, when there were 44,302 schools of all types, with 237,189 instructors, 10,737,957 pupils, and 2,040,300 graduates. There are five imperial universities, four public universities, and 16 private universities.

**PRODUCTION.** About three-fifths of the arable land is worked by peasant proprietors, the remainder by tenants. The accompanying table from the *Statesman's Year Book* for 1926 gives the latest data on the acreage and production of the principal crops:

Crop	Acreage		
	1922	1923	1924
Rice . . . . .	7,852,867	7,868,435	7,855,785
Wheat . . . . .	1,253,510	1,219,662	1,172,602
Barley . . . . .	1,264,037	1,194,520	1,147,747
Rye . . . . .	1,537,180	1,406,057	1,360,250
Tobacco " . . . . .	98,757	97,720	.....
Tea " . . . . .	114,830	110,657	.....

Crop	Produce (quarters)		
	1922	1923	1924
Rice . . . . .	37,932,750	34,652,500	36,481,875
Wheat . . . . .	3,579,375	3,244,374	3,292,500
Barley . . . . .	5,482,500	4,747,125	5,041,250
Rye . . . . .	4,457,500	3,660,000	3,587,500
Tobacco " . . . . .	1,325,071	1,176,000	.....
Tea " . . . . .	.....	.....	.....

" Produce in cwts.

Concerning the mining industries of Japan, the United States *Commerce Reports* in August, 1926, stated that Japan, as compared with the United States or the leading industrial nations of western Europe, is poor in minerals. While deposits of gold and silver have been known to the Japanese and worked by them for centuries, the only mineral substances of material importance at the present time are coal and copper. Lately some petroleum has been found in the northern portion of the main island but the supply is limited and does not meet the requirements of the country. Recent explorations indicate that fairly extensive petroleum and perhaps coal deposits exist in Sakhalin; these are to be exploited in cooperation with the Soviet government, but were not a factor in 1926. There are only 13 mines in Japan whose output of metal in 1924 had a value in excess of 1,000,000 yen. The aggregate output of these mines in 1924 (the latest figures available) constituted 81.3 per cent of the year's total output of metals and metallic ores in Japan. The principal nonmetallic minerals produced in Japan, other than coal and petroleum, are sulphur, phosphate rock, arsenic, and graphite.

**COMMERCE.** A review of the foreign trade of Japan for the first six months of 1926 showed that exports totaled 993,887,000 yen, an increase of 9,499,000 over the 1925 figures, while imports declined from 1,505,290,000 yen in 1925 to 1,339,294,000 at the end of June, 1926. Japan's unfavorable balance of trade, consequently, was

## METAL AND MINERAL OUTPUT OF JAPAN, 1923 AND 1924 \*

Items	Quantity <sup>b</sup>	1923 Value	Quantity <sup>b</sup>	1924 Value
<b>Metals:</b>				
Bismuth .....	pounds... 16,337	\$33,880	65,267	\$124,241
Copper .....	130,832,570	22,106,322	139,012,410	19,902,093
Gold .....	ounces... 247,081	5,085,889	243,706	4,886,708
Gold-alluvial .....	do... 204	3,331	669	8,990
Pig-iron .....	metric tons... 89,643	2,581,816	47,356	1,707,169
Wrought iron .....	do... 317	33,185	.....	.....
Lead .....	pounds... 5,951,761	344,819	6,484,636	397,643
Platinum dust .....	ounces... 224	26,861	145	19,706
Quicksilver .....	pounds... 9	4	.....	.....
Silver .....	ounces... 3,597,495	2,423,907	3,542,462	2,337,084
Steel .....	metric tons... 23,181	1,303,510	27,885	1,159,837
Tin .....	pounds... 672,655	278,480	764,089	354,609
Zinc .....	do... 30,380,005	2,518,276	31,015,809	2,277,402
<b>Nonmetals:</b>				
Arsenious acid .....	do... 9,450,899	795,738	8,163,952	469,946
Graphite .....	do... 1,765,690	27,471	1,692,017	20,791
Phosphate rock .....	metric tons... 33,107	305,158	85,617	664,881
Sulphur, refined .....	tons... 37,416	822,771	46,873	840,797
<b>Coal—</b>				
Bituminous .....	metric tons... 28,948,820	127,962,140	30,110,826	199,061,764
Lignite .....	do... 151,462	501,529	176,764	489,653
Petroleum .....	gallons... 75,119,352	8,994,232	75,313,876	7,876,597
Gas, natural .....	cubic feet... 941,984,000	419,165	824,608,000	261,906
<b>Ores:</b>				
Chromite .....	pounds... 9,977,756	76,489	11,821,479	72,928
Manganese .....	do... 12,112,089	78,653	16,720,503	89,603
Pyrites, iron .....	do... 498,371,817	1,491,660	477,734,958	1,242,331
Sulphur .....	metric tons... 36,823	226,194	51,709	253,112

\* The figures cover only Japan proper; later figures than 1924 are not available in exact form.

<sup>b</sup> The pound has been converted from the kwan at the rate of 8.267 pounds to the kwan; the troy ounce has been converted from the momme at the rate of 0.12057 momme to the troy ounce; the gallon has been converted from the koku at the rate of 47.65389 gallons to the koku.

reduced to 405,407,000 yen in the first half of 1926, a decline of 115,507,000 from the 1925 figure. (1 yen averaged \$0.4096 in the first six months of 1925 and \$0.4504 in the 1926 period.)

Japan's trade with the Far Eastern countries has shown a steady upward trend in the last few years and reveals a still further advance in the period under review. China—its most potential Asiatic market—is mainly responsible for this advance, having increased its purchases from Japan at the end of June, 1926, to the extent of 28,596,000 yen over 1925 purchases for the corresponding period. This increase is partly explained by the larger export of cotton fabrics to China, whose cotton mills had been crippled by a strike. The decline of exports to Hong-kong and the Dutch East Indies are more than offset by the increases to other Far Eastern countries. The value of exports to the United States, on the other hand, registered a slight decline, probably due to reduced prices of raw silk and higher exchange. Renewed buying of silk by France tended to increase exports to Europe. Import trade during the first half of 1926 was generally dull and affected by the high rate of exchange. Lower prices for raw cotton resulted in a decline in the value of imports from both the United States and India. The value of the trade by leading countries, is given for the first half of 1925 and 1926 in the accompanying table.

Although imports as a whole declined, there were notable increases in purchases of wheat, iron and steel, and lumber from the United States. Imports of wheat alone showed an increase of 32,981,000 yen over the first half of 1925. The drop of 113,398,000 yen, or 18 per cent, in raw cotton imports more than offset these increases. The valuation of 24,440,000 yen for rice and paddy imports represented a decrease of 64 per cent from the 1925 period. Owing to Japan's large rice crop in the latter part of 1925 there were considerable stocks on hand the first part of 1926, so that it was not necessary to

make additional purchases from foreign countries. Heavier shipments of cotton and silk textiles account for the bulk of the increase in exports during the 1926 period. Declines are shown in exports of raw silk, cotton yarns, knit goods, waste silk, and iron and steel products.

A new tariff law was promulgated and made effective on Mar. 29, 1926 and goods arriving in Japan on and after that date were subject to the rates provided under the new tariff schedules. In introducing the bill into the Diet, the Japanese Minister of Finance stated that the principal objects of the measure were: First, to adjust existing specific rates of duty so as to bring them into conformity with current prices; second, to reduce or abolish the duties on raw materials needed by Japanese industries; and, third, to afford protection to important industries which are developing in Japan or which show promise of development. The first of these purposes was by general accord considered to be the most urgent. The previous tariff had been in operation since 1911, and except for partial revisions at different times on selected articles, mainly iron and steel products, copper, dyes, and articles considered as luxuries, the rates of duty had remained practically unchanged. In the interim, and particularly since the war, the prices of commodities had increased considerably, with the result that the old specific duties amounted to a smaller percentage of the value of the goods than when originally established. Moreover, there had been growing an insistent demand on the part of the industrial and financial interests of the country for protection to domestic industries, especially those born or expanded during the abnormal war and post-war period, against the importation of rival foreign products.

The new tariff schedules, as evidenced by the increased rates on chemicals, textiles, machinery, and other manufactured products, reflected the declared desire of the government to protect local industries from foreign competition, as

well as an attempt to further the governmental programme of self-sufficiency in commodities essential to national defense. On the other hand, in order to aid manufacturing, raw materials remain duty free or carry lower rates of import duty, while in the case of partially manufactured products and articles not produced successfully in Japan, the former rates on the whole have been maintained or only slightly increased.

**FINANCE.** The principal items of revenues and expenditures for the fiscal years 1924-25 and 1925-26 are shown in the accompanying table:

JAPANESE BUDGET ESTIMATES, 1924-25 AND 1925-26		
Items	1924-25	1925-26
<b>Revenues</b>	<b>Yen</b>	<b>Yen</b>
<b>Ordinary</b>		
Taxes—		
Land tax .....	72,030,788	74,004,816
Income tax .....	166,625,633	195,855,282
Business tax .....	57,308,496	57,282,534
Liquor tax .....	217,412,829	196,377,644
Sugar excise .....	68,442,457	70,099,369
Textile consumption tax .....	54,272,806	53,672,442
Customs duties .....	82,691,890	98,825,114
Other taxes and dues .....	43,642,269	49,119,438
Total taxes ..	762,426,668	795,236,589
Revenue stamps .....	79,380,972	82,142,295
Receipts from Government enterprises and properties .....	340,515,740	395,192,832
Miscellaneous revenues .....	27,226,172	18,220,802
Transferred from special accounts .....	55,738,896	8,529,300
Total ordinary revenues .....	1,265,283,448	1,299,321,318
Extraordinary revenues .....	350,122,803	250,498,468
Total revenues ..	1,615,406,251	1,549,814,786
<b>Expenditures</b>		
<b>Ordinary</b>		
Imperial household .....	4,500,000	4,500,000
Foreign Affairs .....	17,230,762	15,783,976
Home Affairs .....	42,144,777	41,177,477
Finance .....	308,297,250	282,341,810
War .....	181,084,530	170,875,390
Navy .....	126,335,965	122,349,150
Justice .....	28,923,683	28,515,550
Education .....	74,238,748	79,751,638
Agriculture and Forestry .....	29,030,933	21,388,167
Commerce and Industry .....		3,161,185
Communications .....	243,321,895	251,919,459
Total ordinary .....	1,055,108,543	1,021,763,802
<b>Extraordinary</b>		
Foreign Affairs .....	3,086,933	3,454,354
Home Affairs .....	242,505,335	206,500,862
Finance .....	43,299,026	38,083,127
Army .....	23,406,889	28,514,966
Navy .....	118,440,073	105,016,934
Justice .....	4,102,343	2,075,120
Education .....	28,025,523	19,212,460
Agriculture and Forestry .....	34,048,140	20,690,825
Commerce and Industry .....		7,646,241
Communications .....	63,983,446	96,856,095
Total extraordinary ..	560,297,708	528,050,984
Total expenditures ..	1,615,406,251	1,549,814,786

\* The Department of Agriculture and Commerce was separated into the Department of Agriculture and Forestry and the Department of Commerce and Industry on Apr. 1, 1925.

The Japanese national debt on March 31, 1926 amounted to 4,999,176,360 yen, which compares with 4,901,109,202 on Mar. 31, 1925. Although the debt increased 98,067,158 yen during the

12 months, the amount outstanding represents a decline from the high point on Dec. 31, 1925, when the national debt amounted to 5,026,124,686 yen. The accompanying table gives the position of the Japanese public debt on Mar. 31, 1925 and 1926:

POSITION OF JAPANESE PUBLIC DEBT		
Item	1925	1926
Funded	Yen	Yen
<b>Domestic:</b>		
5 per cent national loans	381,629,100	511,762,525
5 per cent national loans, extra .....	135,100,400	134,461,050
5 per cent national loans, mark "Ko" .....	429,023,700	426,495,100
4 per cent national loans, first issue .....	171,100,500	171,075,550
4 per cent national loans, second issue .....	96,584,650	96,560,000
5 per cent exchequer bonds .....	1,529,520,600	1,759,230,425
Railway bonds .....	79,999,500	79,999,500
Total .....	2,822,958,450	3,179,584,150
<b>Foreign:</b>		
4 per cent sterling loan, first issue .....	92,748,500	91,543,746
4 per cent sterling loan, second issue .....	244,063,480	243,638,008
5 per cent sterling loan .....	224,543,532	223,173,784
4 per cent loan issued in Paris .....	172,998,095	170,784,841
4 per cent sterling loan, third issue .....	107,392,805	105,697,167
6½ per cent American dollar loan .....	294,036,270	283,243,589
6 per cent sterling loan .....	244,075,000	244,075,000
Railway sterling loan .....	9,763,000	
Mouth Manchuria Railway sterling loan ..	117,156,000	117,156,000
Total .....	1,506,776,682	1,479,312,135
<b>Floating</b>		
Extraordinary exchequer bonds .....	538,280,075	340,280,025
Rice notes .....	38,093,995	
Total .....	571,374,070	340,280,075
Grand total ..	4,910,109,202	4,999,176,360

**COMMUNICATIONS.** The number of vessels entered in 1924 was 14,846 of 42,476,502 tons and the number of vessels cleared 14,996 of 43,290,039 tons. According to the *Japan Year Book* for 1926 there were 9977.53 miles of railway open for traffic at the end of March, 1924, of which 7344.21 was owned by the state and 2633.32 privately owned. In December, 1926, the United States Bureau of Foreign and Domestic Commerce reported that definite plans had been adopted for the construction of the Japanese Government railway tunnel under the Moji-Shimonoseki Straits. Work was to have been commenced during 1924 or 1925, but the funds authorized for the purpose had to be diverted to other uses in consequence of the earthquake of 1923. Under the present plan work is to begin in 1928, and the tunnel is to be finished by 1933. The total cost was estimated at 20,000,000 yen. Under the present conditions, goods from Kyushu consigned to points in Honshiu must be ferried across the strait on freight-car ferries which leave from Komorio in the southern part of the city of Moji and run to Shimonoseki. As the shore front is very narrow at Moji, there is no room for expansion of facilities. Congestion is occasioned by storms, which cause dangerous currents and tide races in the straits, so that the freight-car ferries cannot be operated for

24 hours or more at a time. The chief gain from the tunnel will be felt in the inland trade between Kyushu and Honshu. During the construction of the tunnel, the two cities of Moji and Shimonoseki will profit to the extent of about 2,000,000 yen a year from the 3500 workmen engaged in the work.

At the very end of the year the chief of the electrical bureau of the Railway Office announced that it was planned to electrify certain sections of the railways in Japan, namely, between Kozu, in Kanagawa prefecture, and Numadzu, in Shizuoka prefecture; between Kokubunji, in Tokio prefecture, and Kofu, in Yamanashi prefecture; and between Otsu, in Shiga prefecture, and Akashi, in Iyogo prefecture. The electrification of the Otsu-Akashi line was to be started in 1929 and completed in 1932. The total expenditure on this line will be 13,000,000 yen. The Kozu-Numadzu electrification will also be started in 1929. In order to meet the requirements for electrification in the Kwanto section of the country, five electric power stations will be established. Although ultimately it was planned to use electric locomotives for both passenger and freight service, until the general financial conditions improve considerably electric locomotives will be used only for passenger traffic. Owing to the unsatisfactory general financial condition, it was reported the work will be spread out over a period of about nine years instead of two years, as originally planned. It was planned to build a great power station at Shinanogawa, in Niigata prefecture, the estimate for the construction of which was increased from 36,218,000 to 58,545,000 yen.

**ARMY AND NAVY.** Military service is universal and compulsory. Liability commences at 17, but actual service begins at 20 years and lasts for 20 more. The peace strength of the active army in 1925 was 16,879 officers and 216,114 men, of whom 195,861 were quartered in the home territory. The ordinary expenditure for the army in the 1925-26 budget was 170,875,390 yen. See **MILITARY PROGRESS; NAVAL PROGRESS.**

The accompanying table from the *Statesman's Year Book* for 1926, shows the classification of the Japanese fleet for the three years ending with 1925:

	Completed at end of		
	1923	1924	1925
Battleships and battle cruisers	10	10	10
Armored cruisers	8	7	7
Aircraft carriers	1	1	1
Light cruisers	15	18	22
First-class gunboats	4	4	4
Destroyers	85	81	89
Submarines	45	54	69

\* The destroyers are 38 first-class, 51 second-class.

**GOVERNMENT.** Executive power is in the emperor who acts with the advice and aid of a ministry appointed by and responsible to himself; legislative power in the emperor and an Imperial Diet of two chambers, namely the Upper House or House of Peers, composed of membership based on rank, wealth, and other qualifications, and numbering at the beginning of the year, 420; and the Lower House or House of Representatives, elected for four years and numbering at the beginning of the year, 464. Emperor at the beginning of the year, Yoshihito (q.v.), born Aug. 31, 1879; died in December,

1926; succeeded his father, Mutsuhito, on the throne on July 30, 1912. Owing to the Emperor's ill health, his son, Crown Prince Hirohito, acted as regent from November, 1921, until December, 1926, when he became Emperor. The cabinet at the beginning of the year was composed as follows: Prime Minister and Home Affairs, Reijiro Wakatsuki (January, 1926); Foreign Affairs, Baron Kijuro Shidehara; Finance, Yuko Hamaguchi; War, Gen. Issei Ugaki; Navy, Admiral Takeshi Takerabe; Justice, Yoku Egi; Education, Ryohei Okada; Agriculture, Seiji Hayami; Commerce, Chokuon Kataoka; Communications, Kenzo Adachi; Railways, Mitsugu Sengoku.

**HISTORY.** The outstanding events during the year were the death of the Emperor Yoshihito on December 25 and the death of Baron Kato, the Prime Minister on January 28. (Consult the biographies on both of these men under their own titles.) The death of Baron Kato left the cabinet in a very weakened position. He had been the head of the Kenseikai Party as well as Prime Minister and was succeeded in both positions by R. Wakatsuki. The House of Peers preferred to hold a new election but were dissuaded because of the electoral law passed in 1925 (see preceding YEAR BOOK) which increased the number of voters by 11,000,000 chiefly among the laboring classes. The Diet finally closed its sessions on March 26, after a session that was very heated, in which there were riots, and charges of graft were hurled at each other by the government and opposition parties.

The most important measures passed during the session were the doubling of the duty on wheat; an increase of 50 per cent on flour; a law against reactionary laws such as the one in force when the American flag was stolen from the old Embassy grounds at the time of the immigration trouble; a law imposing penalties for the giving or accepting of blackmail; the taking over of the Nishihara loans to the Chinese by the government from the banks which made them; a subsidy for domestic pig iron and steel; greatly increased educational subsidies; an appropriation of funds to replace a few auxiliary war craft; and taxes on soft drinks. The Cabinet failed to secure the reduction on the land taxes which it had promised, and saved its position only by compromising with the Seiyuhonto Party, which held the balance of power between the Kenseikai Government and Seiyukai Opposition Parties. After the Diet closed Premier Wakatsuki began the formation of plans to reorganize the cabinet. On June 2 he appointed Viscount Kyoshiro Inouye to the post of Minister of Railways and Dr. Kuratomi, President of the Privy Council. These two appointments were considered very wise because the former was the leader of the government party in the House of Peers and the latter was very popular because of his espousal of the Suffrage Extension Bill of 1925. Other new members of the cabinet were Hamazuchi, Interior, Hayami, Finance, and Machida, Agriculture. Hayami (q.v.) died on September 13 and was succeeded by Naoharu Kataoka, Minister of Commerce, who, in turn, was succeeded by Ikunosuke Fujisawa.

On November 10 the new Japanese Land Law went into effect. Foreigners are permitted to acquire land except in certain defensive areas where the consent of the Army and Navy ministerial heads must be first secured. *Current*

*History* reported that the following articles relating to discriminations against nationals of countries which forbid Japanese land ownership did not come into effect until proclaimed by imperial ordinance:

Art. 1—Any foreigner or any foreign juridical person belonging to a country which imposes prohibitions, conditions or restrictions on the enjoyment by Japanese subjects or Japanese juridical persons of rights pertaining to land may be placed by imperial ordinance, regarding the enjoyment or rights pertaining to land in Japan, under such prohibitions, conditions or restrictions as are identical with, or analogous to, the said prohibitions, conditions or restrictions respectively.

#### A LIST OF THE COUNTRIES OF THE WORLD AND THEIR JEWISH POPULATION

Name of country	Number of Jews	Name of country	Number of Jews
Abyssinia	50,000	Luxemburg	1,353
Aden and Perim	3,747	Malta	35
Afghanistan	18,135	Mexico	8,972
Alaska	500	Morocco (French)	21,000
Algeria	85,000	Morocco (Spanish)	18,000
Arabia	25,000	Netherlands	150,000
Argentina	200,000	New Zealand	2,380
Australia	21,615	Norway	1,457
Austria	350,000	Palestine	110,000
Belgium	44,000	Paraguay	400
Brazil	21,000	Persia	40,000
British Empire	514,442	Philippine Islands	500
British Malaya	703	Poland	2,854,000
Bulgaria	43,232	Porto Rico	200
Canada	126,196	Portugal	1,000
Chile	2,000	Portuguese East Africa (Mozambique)	100
China	12,000	Rhodesia (Northern)	110
Congo (Belgian)	177	Rhodesia (Southern)	1,289
Crimea	51,516	Roumania	900,000
Cuba	4,000	Russia (R. S. F. S. R.)	518,260
Curaçao	565	Russia (R. S. F. S. R.) in Europe	2,662,139
Cyprus	195	Russia (U. S. S. R.)	2,820,429
Czechoslovakia	354,342	Russia (U. S. S. R.) in Asia	114,953
Danzig	9,239	Saar Region	5,000
Denmark	5,947	Serb-Croat-Slovene Sta.	64,159
Dominican Republic	55	Siberia	44,725
Egypt	59,581	S. W. Africa	200
Estonia	4,566	Spain	4,000
Finland	1,618	Surinam (Dutch Guiana)	818
France	165,000	Syria and Lebanon	35,000
France and Possessions	551,000	Sweden	6,469
Germany	615,000	Switzerland	20,979
Gibraltar	1,123	Tanganyika (German East Africa)	10
Great Britain	297,000	Tangier Zone	12,000
Greece	125,000	Trans-Caucasian Rep.	57,608
Hawaii	150	Tunisia	65,000
Hongkong	150	Turkey in Asia	70,000
Hungary	473,310	Turkey in Europe	120,000
India	21,778	Turkoman	500
Indo-China (French)	1,000	Ukraine	1,795,540
Iraq	87,488	Union of South Africa	62,103
Irish Free State	5,148	United States (Cont'n'l)	3,600,800
Italy	50,000	United States and Possessions	3,602,220
Jamaica	1,250	Uruguay	150
Japan	1,000	Uzbek Republic	10,000
Kenya	100	Venezuela	411
Kirghizia	2,120	Virgin Islands	70
Latvia	95,675	West Russia (Government of Witebsk)	115,613
Libya	20,000	White Russia	395,184
Lithuania	155,125		

Art. 2—A Japanese juridical person or a foreign juridical person shall in case not less than one-half in number of its members, shareholders or executive officers, or in case not less than one-half in amount of its capital, or in case a majority of its votes are or belong to foreigners or foreign juridical persons, such as are mentioned in the preceding article, be regarded in accordance with provisions made in that behalf by imperial ordinance as belonging to the country or countries to which the said foreigners or foreign juridical persons belong, and the preceding article shall apply to the said Japanese juridical person or the said foreign juridical person.

The amount of capital and the number of votes referred to respectively in the preceding paragraph shall be computed in manner provided for by imperial ordinance.

Art. 3—Any part of a foreign country which enjoys separate legislative power in regard to land shall, in the application of the present law, be regarded as a separate foreign country.

**JAPANESE BEETLE.** See ENTOMOLOGY, ECONOMIC.

**JEBEL SHAMMAR.** See ARABIA.

**JEWS.** The statistical tables prepared by Dr. H. S. Linfield for the *American Jewish Year Book* continue to be of increasing value. The 1926 YEAR BOOK estimates the Jewish world population to be 14,600,000 of whom two-thirds live in Europe and about 27 per cent in North and South America. Asia is estimated to have 3.24 per cent; Africa 3.92 per cent and Australasia .17 per cent. The following table presents the latest estimates.

**IMMIGRATION.** In view of the immigration restrictions it may be of interest to recapitulate the size of Jewish immigration. During 1908-24, 1,008,586 Jews were admitted to the United States. During the same period 52,294 Jews departed. The net increase was thus 956,292 or 13.4 per cent of the total net increase. In the year ending June 30, 1925 only 10,292 Jews entered, departures were 291, leaving an increase of 10,001 or 4.9 per cent of the total increase.

**ANTI-SEMITISM.** Generally, the excesses launched against the Jews during the year were less serious in character than those of previous years. Hungary, Rumania, Poland, Lithuania continued the scene of disturbance, students in

particular feeling the weight of Anti-Semitic feeling. The *numerus clausus* continued to prevail in Hungary and was practically in force in Rumania because of the hostility of non-Jewish students. In the United States there was little evidence of any anti-Jewish sentiment, the contrary, rather, being the rule. Non-Jews organized to support the United Jewish Campaign's \$25,000,000 campaign and in New York City John D. Rockefeller, Jr., gave \$500,000 toward the Jewish Federation's annual campaign. The end of the year, however, saw another of Henry Ford's intemperate attacks on a familiar theme, i.e., the control of the financial centres by the "international Jew." Mr. Ford's statements were sufficiently vague to make them quite harmless, but when he included the Federal Reserve System among the financial centres controlled by Jews he left himself vulnerable. There was talk of a Congressional investigation, but it soon appeared evident that Mr. Ford's remarks were being paid slight heed. There follows some brief accounts of the progress of affairs in other countries.

GERMANY. Proof of the fact that Anti-Semitism had not entirely subsided was evidenced by the moves in Germany to put an end to the Jewish method of slaughtering animals for food. In Bavaria, the diet requested the government to proceed against the method (called *Shehitah*) and bills toward the same end were introduced in the Prussian and Thuringian diets. In the last named, the National Socialist Party introduced a group of bills providing that Jews be prohibited from engaging as judges, notaries, traders in grain and cattle, physicians in public institutions and teachers. It is interesting to note that one of these bills defined the word Jew as applying to "any person whose grandfather had blood relatives of the Mosaic persuasion."

RUMANIA. In this country excesses seemed to continue undiminished. There were attacks on Jews in Bucharest, Arbora, Bukowina and Radanti. (Summer.) The Jews were moved against in Bessarabia; Jewish students were denied the privilege of dissecting cadavers; banks and other credit agencies were reported hostile to Jews; while Anti-Semitic students indulged in numerous excesses. There was a general demand for *numerus clausus*.

TURKEY. In August a group of notables of the Sephardic Community of Constantinople petitioned the government to accept the Jewish renunciation of minority rights, to regulate the administration of the Jewish Community, the schools, and cultural and charitable institutions, and in short to consider the Jews again as an integral part of the Nation. Louis Marshall hotly attacked the petition of the Turkish Jewish notables, characterizing it as a dastardly act. The Sephardic Jews, in defending themselves, declared that the minority rights guaranteed them by the Treaty of Lausanne no longer had any legal standing in Turkey in view of the country's acceptance of the Swiss Code "which recognizes the equality of all Turkish citizens irrespective of race or creed." Other groups aligned themselves with Mr. Marshall, notably the National Minorities Congress (Geneva) which denounced as null and void the renunciation of the Turkish notables and accused the Turkish Government of acting in bad faith.

HUNGARY. The *numerus clausus* appeared still

to prevail. The Minister of Education issued a decree in September fixing the Jewish quota for 1926-27 at 190 Jewish students. This order seemed to act as a signal for Anti-Semitic riots, for Jewish students were attacked at Budapest several times during October.

RUSSIA. Russian evidences of good-will continued. As part of a definite policy to gain the adherence of non-Russian minorities, the government permitted the creation of Yiddish Soviets in those localities where Jews were in the majority. The year saw some 20 such Soviets organized in the Ukraine and White Russia. Repeatedly during the year, too, there were expressions of friendliness toward the Jews on the part of high officials.

POLAND. There were evidences of a return to reason in Poland. In July, the new premier M. Bartel stated before the Sejm that "starting from the point of view that economic Anti-Semitism is harmful to the country, the government considers it necessary to maintain in the realm of its activity the principles of impartiality and justice. The government will especially see to it that in the realm of taxation and credit attention should be given solely to relevant facts and not to matters of religion or nationality. The government will close no secret agreements with the Jewish population. It will, however, insist on the principle that the provisions of the Constitution must be carried out. The Government reiterates that all the limitations of the rights of Jews which were issued by the power of occupation (Russia) and remain in operation are abolished and they will not be applied any more to the Jewish population."

ZIONISM. The Zionist Organization of America held its twenty-ninth annual convention at Buffalo, New York, June 27-29. Reports presented indicated an enrolled membership of 71,226 of whom 29,492 were members of the Hadasah Women's Zionist Organization. The Hadasah at its Convention adopted a budget of \$745,000, and voted to launch a campaign for the raising of one million dollars for the purpose of erecting a medical centre and a chain of hospitals in Palestine. The power of the movement was indicated by the fact that during the period Oct. 1, 1925-June 28, 1926, the United Palestine Appeal secured \$4,361,101 in pledges and \$2,540,976 in cash. At the Zionist Organization Convention a number of things occurred. Louis Lipsky, Chairman, attacked the Russian Colonization project of the Anti-Zionists and accused them of acts subversive of Zionism. The Revisionist programme, frankly Anti-Arab and Anti-British, was openly condemned and a vote of censure was carried by 193 to 7. Other resolutions attacked the British Administration of the Palestine Mandate as failing to coöperate with Zionists and demanded the settlement of Jews on the Crownlands, adequate distribution of the Educational Budget between Jews and Non-Jews, expediting projects of primary importance in the development of the homeland and repealing the "burdensome" immigration restrictions promulgated by Great Britain. It was voted to push the creation of the Jewish Agency in Palestine upon which Non-Zionists had promised to coöperate. The Convention generally expressed its confidence in its leaders, Dr. Chaim Weizmann, President of the World Zionist Organization and Louis Lipsky, Chairman of the Zionist Organization of America.

A curious, in that it is hard to find its replica, attack was launched against Zionism in America late in the year. In December, Dr. Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching, released the results of a survey he had made of Egypt, Palestine and Greece. With regard to the Palestinian experiment, Dr. Pritchett, examining its history since 1918 was able to say on the grounds of political and economic fact that it was "unfortunate and visionary." Politically, it represented a movement whose purpose was the wresting of control from seven-eighths (the Arabs) of the present inhabitants of the land. Economically, the whole was doomed to failure because of the sterility of the land, the lack of natural resources and the failure to find sources of power-energy. He deplored the nationalism of the Zionists and saw in their romantic ardor a source of danger to the peace of the Near East. This last point is interesting enough to cite in full: "The segregation of any national group by itself has seldom failed to develop a type of personality and national character that was aggressive, egotistic and without capacity for cooperation with the rest of the world. No greater misfortune can come to a people or to a nation than to cherish the illusion that it is a chosen people and enjoys the favor of the Almighty beyond all other peoples."

To this Dr. Chaim Weizmann and Dr. Stephen S. Wise replied in notable statements. They pointed out that Dr. Pritchett's arguments were the customary stock-in-trade of Anti-Zionists; that American agricultural experts saw great possibilities for reclamation projects in the land; and that a project was already under way for the electrification of power derived from the Jordan River which would serve both Palestine and Transjordan. Too, Zionism had brought to the Arabs distinct advantages in higher standards of life, modern hospitalization, etc., with the result that the two groups were living in considerable amity. Dr. Weizmann pointed to the situation in Palestine as compared to the state of affairs in the neighboring French Mandate of Syria and went on to say: "The relations between the Jews and the Arabs are fast approaching relations of mutual cooperation."

The fear that Dr. Pritchett expressed that the incoming Jewish immigration was displacing the native Arabs was entirely groundless. Palestine is admittedly capable of holding a considerably larger population than it had. The Jewish Colonization policy was being carefully conducted, with a view to safeguarding to the utmost every right of the native Arab population, and not a single instance of injustice resulting to an Arab from Jewish Colonization could be cited to bear out the fear entertained by Dr. Pritchett. The debate had very little repercussions on American opinion. It was doubtful if Zionism was harmed to any extent. See PALESTINE.

EUROPEAN RELIEF. In October the leaders of the United Jewish Campaign met in Chicago to hear reports from their leading agents directing relief activity in Europe. So impressed were they by the seriousness of the situation that they endorsed the action of their Chairman, David A. Brown, in raising their goal from \$15,000,000, to \$25,000,000. Dr. Bernhard Kahn, European director of the Joint Distribution Committee, outlined particularly the work in Poland. He

declared that before his organization came upon the scene, one-third of the total Jewish population in Poland was on the verge of starvation. From January to December his office helped with small loans 165,000 persons; spent \$35,000 for feeding unemployed working men; spent \$52,000 for feeding school children; distributed milk to some 151,000 nursing babies; established summer colonies, etc. The Joint Distribution Committee cooperated especially with the cooperatives, lending them some \$600,000 for the purpose of helping restore their credit. Dr. Joseph A. Rosen reported on the Organization's work in Russia. He declared that already 50,000 Jews had been aided to avail themselves of the Soviet Government's offer of free land.

It was reported at the Convention that the United Jewish Campaign had already been pledged \$15,541,310 and that of this \$4,500,000 had already been paid in on account of the pledges. At the Convention a message was read from Non-Jews indicating their sympathy in the purpose of the campaign and a willingness to help financially. The message was signed by Dr. S. Parkes Cadman and Judge Victor T. Dowling. It should be said that the United Jewish Campaign group is Anti-Zionist, and has been accused by the Zionist Organization of pushing their Russian colonization project to win Jews away from support of Palestine.

JOHNS HOPKINS UNIVERSITY. A non-sectarian institution of higher education for men (women are admitted to certain courses) at Baltimore, Md.; founded in 1876. The enrollment for the autumn of 1926 was 4584, distributed as follows: graduate school of arts and sciences, 448; school of medicine, 275; school of hygiene and public health, 98; college of arts and science, 481; institute for biological research, established in 1925, 1; school of engineering, 295; school of business economics, 74; college for teachers, 1500; night courses for technical workers, 432; evening courses in business economics, 955; courses in social economics, 19. For the 1926 summer school 1008 were registered. The faculty numbered 529. The productive funds amounted to \$22,940,417.87, and the income for 1925-26 to \$1,790,561.97. The library contained 283,242 volumes. Beginning with the academic year 1926-27, a new plan of graduate instruction was instituted. The new building of the School of Hygiene and Public Health, valued at approximately \$1,000,000, was completed and occupied in September, 1925. The University received from the General Education Board \$175,000 for the Institute for Biological Research and \$200,000 to establish a professorship in the history of medicine. President, Frank Johnson Goodnow, LL.D.

JOHNSTON, RIENZI MELVILLE. American editor and politician, died at Houston, Tex., February 28. He was born at Sandersville, Ga., Sept. 9, 1850, and after receiving an education at the common schools of Bainbridge, Ga., served for two years in the Confederate Army. After engaging in newspaper work in Georgia, he moved to Texas in 1878 where he was for many years president and editor of the *Daily Post* of Houston. Interested in politics he declined the nomination for lieutenant-governor of Texas in 1898, but was appointed United States Senator, on Jan. 4, 1913, succeeding Joseph W. Bailey who had resigned, and served until a successor was selected by the legislature on Jan. 29, 1913. From

1900-12 he was a member of the Democratic National Committee from Texas; he was a member of the Texas Senate. He also was first vice-president of the Associated Press, and later a director in that organization.

**YUGO-SLAVIA.** A Balkan state, formed after the war, comprising under a federal form of government the following territories: The formerly independent kingdoms of Serbia and Montenegro; Bosnia and Herzegovina; Croatia and Slavonia, former autonomous states of Hungary, portions of the Banat, Bačka, and Baranja, integral parts of Hungary proper; Dalmatia, a former province of the Austrian Empire; and Slovenia, composed of portions of former Austrian provinces. Capital, Belgrade.

**AREA AND POPULATION.** According to the census of Jan. 31, 1921, the area of Yugo-Slavia was 96,134 square miles and the population 12,017,323, representing a density of 125 to the square mile. The majority of the inhabitants speak Serbian and Croatian. Other important linguistic groups are the Slovene and other Slavic languages, German, Rumanian, Hungarian, and Albanian. The principal cities, according to the 1921 census, are: Belgrade, 111,740; Zagreb (Agram), 108,338; Subotica, 101,857; and Sarajevo, 66,317.

**EDUCATION.** Primary education is compulsory, and in all schools under the Ministry of Instruction, is free. According to the latest available statistics the elementary schools numbered 5974, with 12,758 teachers and 800,868 pupils; the secondary schools, 139, with 2794 teachers and 55,636 pupils. There were also 32 training schools for elementary school teachers with 433 instructors and 5603 students. There are also three universities, namely, Belgrade, with 127 teachers and 7608 students; Agram, 133 teachers, 3249 students; and Ljubljana, 73 teachers, 769 students.

**PRODUCTION.** Yugo-Slavia is almost exclusively an agricultural country. During 1926 the most serious factor in the economic situation was the threatened destruction of portions of the crops by excessive rains in the early part of the summer. However, the damage caused by the floods and subsequent rains, though serious enough, did not prove to be as bad as was first expected, and in many cases the water receded without any great injury to the crops and fields. On the whole the crops were good in spite of these adverse factors but harvesting and threshing were delayed from three to four weeks. What damage was done seemed to have been offset by the additional acreage sown during the year. The grain yield in 1923 amounted to 4,630,736 metric tons, in 1924 to 6,150,000 metric tons, and in 1925 to 6,783,360 metric tons. The timber output, which in 1921 was 411,728 metric tons and in 1922 was 767,666 metric tons, by 1923 had increased to 1,276,551 tons, and by 1924 to 1,564,109 tons. The production of sugar, which formerly was largely imported, is now more than the amount required for home consumption. From 20,170 tons in 1921, production rose to 122,800 tons in 1924-25. Tobacco production rose from 4,900,000 kilos in 1919 to 33,600,000 kilos in 1924. About one-third of the whole capital invested in the country's industries is estimated to be devoted to the manufacture of forest products, and approximately 100,000 workers are employed in the lumber and wood-working mills. Mineral resources are of some importance and include:

Coal and lignite, copper ore, iron, lead, gold, chrome, antimony, and cement.

**COMMERCE.** During 1925, according to the United States Bureau of Foreign and Domestic Commerce, Yugo-Slavia, for the second consecutive year, achieved a favorable trade balance. The excess of exports over imports amounted to 13,300,000 gold dinars, as compared with 92,700,000 dinars for 1924. Exports for 1925 exceeded those of the preceding year in both quantity and value, amounting to 4,398,466 metric tons, valued at 783,349,517 gold dinars, as compared with 3,915,700 tons, valued at 671,271,941 gold dinars in 1924. The gold dinar has a value of 19.3 cents. The increase in quantity was about 12.3 per cent, and the increase in value was about 17 per cent. The increase in exports over the previous year is attributable to the heavy shipments of 1924 corn during the year 1925. The importance of this grain in raising the total value of exports may be seen from the fact that it constituted 23.8 per cent of the products shipped abroad, whereas in 1924 it constituted only 6.13 per cent. However, as the high exportation of corn in 1925 resulted from a number of exceptional circumstances, it is not a satisfactory index of the growth of exports; in fact, most of the other leading items show a decrease as compared with 1924. For example, exports of wood, wheat, and flour have fallen off greatly; exports of live hogs decreased 50 per cent from 1924, and other livestock in about the same proportion.

Imports during 1925 also exceeded those of 1924 in value as well as in quantity, amounting to 1,513,862 metric tons, valued at 769,145,759 gold dinars, as compared with 1,127,686 tons valued at 578,588,568 dinars in 1924. The quantity increase was 34 per cent, the value increase 33 per cent. The 33 per cent advance in imports was not reassuring as there was nothing to prove that it represented increased purchasing power on the part of the population. The explanation of the increased imports is to be found, rather, in the higher customs tariff that went into effect on June 20, 1925, causing many importers to increase their orders greatly prior to that date so that they might secure goods at the lower rates.

**FINANCE.** There was no annual budget for the year 1925-26 but total monthly receipts were reported to have exceeded expenditures. The budget bill for 1926-27 as finally voted by parliament on Mar. 31, 1926, provided for an exact balance of expenditures and revenues at 12,504,000,000 paper dinars. The new budget included for the first time the expenditures and receipts of the Südbahn railways, which have previously been carried separately. On the other hand, the receipts and expenditures of the State domains of Belje and Topolovatz were omitted from the 1926-27 budget. Allowing for these additions and omissions, this budget shows a reduction of 317,000,000 dinars from the monthly budget of 1925-26 and is indicative of the very serious efforts at economy that have been made. No difficulties were anticipated by the government in obtaining the receipts estimated, but there may be some difficulty in restricting the expenditures to the budget level.

**COMMUNICATIONS.** According to the latest available statistics the merchant marine of Yugo-Slavia consisted of 271 steamers with a total tonnage of 89,105, and 259 sailing vessels of 18,



022 tons. Shipping entered and cleared in 1921 comprised 4021 sailing vessels of 177,038 tons, and 12,727 steamships of 3,058,661 tons.

In 1925 there were 6118 miles of railway, all of which belonged to the state with the exception of 581 miles belonging to a private company.

GROSS EARNINGS OF JUGO-SLAV STATE  
RAILWAYS, 1920-1924

Year	Dinars (paper)*	Per cent annual increase
1920.....	371,000,000	...
1921.....	884,000,000	138
1922.....	1,267,000,000	43
1923.....	1,879,000,000	48
1924.....	2,487,000,000	32

\* The exchange value of the dinar for the respective years averaged, as follows: \$0.02604 in 1920, \$0.02367 in 1921, \$0.01355 in 1922, \$0.0107 in 1923, and \$0.01285 in 1924.

GOVERNMENT. Under the constitution adopted June 28, 1921, executive power is vested in a king and legislative power in a single chamber or National Assembly, which consists of 313 members. As a result of the election of Feb. 8, 1925, the party grouping in the national assembly was as follows: Radicals, 140; Independent Democrats, 22; Democrats, 37; Croatian Agrarians, 67; Serb Agrarians, 5; Mohammedans, 15; Catholic People's Party, 20; others, 4. The king was Alexander I, born Dec. 17, 1888, who succeeded to the throne with full rights on Nov. 6, 1921. The cabinet as formed on Apr. 8, 1926, was as follows: Prime Minister, N. Uzunovitch; Foreign Affairs, Dr. Marko Nintchitch; Interior, B. Maximovitch; Unification of Laws, Dr. M. Srekhitch; Justice, M. Djuritchitch; Posts and Telegraphs, Benjamin Superina; Agriculture, Vasa Yoyenovitch; Agrarian Reform, Pavle Raditch; Finance, the Prime Minister; Education, V. Voukitchevitch; Social Affairs, Milan Simonovitch; Mines and Forests, Dr. Nikola Nikitch; Public Health, Dr. S. Miletitch; War and Marine, Gen. D. Trifounovitch; Public Works, Milorad Vuitchitch; Commerce, Dr. Ivan Krayatch; Transport, K. Miletitch; Public Worship, M. Trifunovitch.

HISTORY. At the beginning of the year the position of Premier Pashitch was anything but secure. In the first place he was very old (80) and in failing health, and in the second place the opposition of the Croatian People's Party and followers of Dr. Raditch were becoming more powerful, having formed the Federal Peasant Party in the second week of January. On January 21 several arrests occurred because of the unearthing of a Communist plot to overthrow the government. On April 5, the Pashitch ministry fell after a definite split had occurred between the government and the Croatian People's Party which resulted in the resignation of Dr. Raditch from the education post and four other Croatian ministers. For the attempt on the part of Pashitch to preserve harmony by inviting Raditch and his fellow Croatians to serve in the cabinet, consult the preceding YEAR BOOK. Nikola Uzunovitch was requested to form a cabinet and he did so on April 8, requesting all of the members of the Pashitch cabinet to hold their posts with the exception of Pashitch, himself, of course. This was a very temporary move, however, because the entire ministry resigned a week later when Raditch attacked the Minister of the Interior, M. Miletitch, on the ground

of corruption in his department. On April 15 Uzunovitch reorganized the cabinet and did not include Raditch and two of the other Croatian ministers.

The Uzunovitch cabinet resigned on December 7, as a result of the publishing of the Italian-Albanian treaty. See ALBANIA, *History*. King Alexander requested Uzunovitch to form another cabinet, but he was unable to do so. Then the king called upon Pashitch to form a ministry, although he was nearly 81 years of age and in very poor health. He called a meeting of his party leaders on the evening of December 9, and during the discussion complained of feeling ill. He retired from the meeting and in a very short time sank into a coma from which he did not emerge. He died at four o'clock in the morning of December 10. His death was sincerely mourned throughout the country and the press paid him a measure of praise which was often deserved but never received during his lifetime. King Alexander appeared to be visibly affected and sincerely sorry because of the passing of the "grand old man of Serbia." The death of Pashitch (q.v.) left the political situation in a turmoil. After several attempts to form a cabinet, Uzunovitch gave up the task temporarily and Prof. Ijuba Davidovitch attempted to form one. As the year closed he also had failed and the King had again turned to Uzunovitch.

JURISTS, INTERNATIONAL COMMISSION OF. See INTERNATIONAL LAW.

KAHN, MAX D. American biologist and physician, director of laboratories and chief of the department of metabolism, Beth Israel Hospital, New York, died in New York, April 9. He was born in Russia in 1887. Coming to the United States he received the degree of Doctor of Medicine from the Medical School of Cornell University. Taking up post-graduate work at Columbia he received the degree of Doctor of Philosophy in 1912. Dr. Kahn's greatest achievement was his development of intarvin, an artificial fat for use in treating diabetes. This was a product of his researches in the laboratories of the Beth Israel Hospital and Columbia University, and became frequently used in place of insulin in special cases. He was appointed associate professor of biological chemistry at Columbia and chief of the metabolic department of the United Israel-Zion Hospital in Brooklyn. Among his many scientific papers his most important publication was the *History of Medicine*.

KAISER WILHELMSLAND, kí'zér-víl'-hélmslánt'. A mandated territory under the control of Australia. It was a colony of Germany at the outbreak of the war in 1914, but was shortly captured by Australian forces. It occupies the northern part of S. E. New Guinea. On Dec. 17, 1920, the League of Nations assigned it to Australia under a mandate. See GERMAN NEW GUINEA.

KAMERUN, káme-rōn', CAMEROON or CAMEROONS. The name applied to the territory between British Nigeria and French Equatorial Africa, extending from the Gulf of Guinea to the south shore of Lake Chad; formerly a German protectorate, but occupied by the British and French during the war and divided in 1919 between France and Great Britain, the former getting by far the greater part. Area (exclusive of the tract transferred to Germany from the French Congo in 1911), 191,130 square miles; population, 2,540,000.

**FRENCH KAMERUN.** At the time of the division of the former German protectorate in 1919, France received an area of 166,489 square miles (also exclusive of the area ceded to Germany in 1911, which, after the war, was annexed to French Equatorial Africa); population, about 1,500,000. The seat of the government is at Yaoundé, and the chief port is Donala. In 1924 there were 31 government schools with a total attendance of 8000. The principal products are cacao, coffee, ivory, tobacco, palm oil, and palm nuts. In 1924 the imports amounted to 73,947,426 francs, and the exports to 66,215,124 francs. In the same year 257 vessels entered at the port of Donala. The general budget for 1925 balanced at 18,600,000 francs and there was a special railway budget of 4,843,000 francs. There are 363 miles of railway. The colony was created an autonomous territory by decree of Mar. 28, 1921, and is under the administration of a French Commissioner. Commissioner at the beginning of 1926, M. Marchand.

**BRITISH CAMEROONS.** Great Britain received about 31,000 square miles of Kamerun in the division of 1919. The population is estimated at about 660,000. Cacao, palm kernels, rubber, hard-wood, and ivory are the principal products. In 1924 the imports were £45,945 and the exports £112,195. In the same year 78 vessels of 157,920 tons entered the port of Victoria. The revenue in 1924 was £45,573 and the expenditure, £112,002. The governor of Nigeria is the administrator of the British Cameroons.

**KAMMERER, DR. PAUL.** Austrian biologist, shot himself on the Schneeberg, near Vienna, September 24. He was born in Vienna, and soon drew attention to himself on account of the unorthodox nature of his scientific researches. In his work he identified himself absolutely with the school of which his friend, Prof. Eugene Steinach, was one of the leaders. One of the great troubles of his life and, it was believed the one directly responsible for his death at his own hand, was his non-acceptance in orthodox scientific circles. He was accused of violent Socialism, of outraging the sensibilities of true science, and in some quarters, of charlatanism, and this proved too much for him to bear. He wished to become a professor in his home city, but circumstances warring against him he twice tried to stir up interest in his studies abroad by making a lecture tour in America. In 1925, he was appointed to the chair of biology in the University of Moscow, and he returned to Vienna to buy equipment for his post. Just before he was due to depart for Moscow to take up his duties, he ascended the Schneeberg and shot himself. His main studies were concerned with the problems of evolution and the development of his Law of Series, which endeavored to explain why one great disaster is almost invariably followed by another or several others, a law which the main body of scientists found it impossible to accept. After his death the press of Vienna paid warm tribute to the dead scientist and lamented his end. His greatest work was his volume entitled *The Law of Series*.

**KANESH, EXCAVATIONS AT.** See **ARCHAEOLOGY**.

**KANSAS. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,769,257. According to the State census taken in 1925 the population was 1,812,986. The estimated population on July 1, 1926, was 1,821,000. The capital is Topeka.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Wheat, winter	1926	10,139,000	150,057,000	\$178,568,000
	1925	8,592,000	77,328,000	114,445,000
Wheat, spring	1926	8,000	27,000	31,000
	1925	9,000	60,000	78,000
Corn	1926	5,568,000	57,299,000	40,109,000
	1925	6,623,000	109,942,000	72,562,000
Hay, tame	1926	1,565,000	2,707,000 <sup>a</sup>	35,191,000
	1925	1,715,000	3,420,000 <sup>a</sup>	41,382,000
Oats	1926	1,626,000	35,122,000	15,454,000
	1925	1,712,000	39,376,000	17,925,000
Potatoes	1926	43,000	3,913,000	6,652,000
	1925	54,000	3,618,000	8,502,000
Barley	1926	266,000	3,032,000	1,850,000
	1925	380,000	6,080,000	3,526,000
Sorghum (grain)	1926	1,078,000	19,404,000	11,642,000
	1925	1,100,000	22,770,000	16,167,000

<sup>a</sup> tons.

**MINERAL PRODUCTION.** Petroleum, the chief mineral product of the State in total value of annual production, was produced on an increasing scale in 1925, attaining for the year's production the quantity of 38,284,000 barrels, as against 28,836,000 barrels in 1924; the 1925 product was valued at \$73,200,000, that of 1924 at \$44,400,000. Zinc production totaled 105,392 short tons in 1924 and 100,969 short tons in 1923; in value, \$13,700,960 in 1924 and \$13,731,784 in 1923. Coal production, generally reckoned the State's third most important mineral industry, attained 4,092,000 tons in 1925, and in 1924 4,247,733 tons; production was valued \$13,013,000 in 1925, and in 1924 at \$12,854,000. Natural gas, produced in the quantity of 25,580,000 M cubic feet in 1924 and 30,913,000 M cubic feet in 1923, attained a value of \$10,087,000 in 1924 and in 1923 of \$11,249,000. The totals of natural gas gasoline production were in 1925 13,000,000 gallons and in 1924, 11,658,000 gallons; their value, in 1925 \$1,400,000 (estimated) and in 1924 \$913,000. The State produced in 1925 6,515,000 barrels of cement and in 1924 5,894,236 barrels. Cement shipments had in 1925 a total value of \$11,718,000 and in 1924 of \$9,900,547. Lead production was, in quantity, 18,560 short tons in 1924 and 17,598 short tons in 1923; in value, \$2,969,600 in 1924 and \$2,463,720 in 1923. The State produced also important quantities of salt, sand and gravel, stone and gypsum. The total value of mineral products in 1924 was \$105,005,476; in 1923 it was \$110,630,255.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$12,511,566. Their rate per capita was \$6.91, as against \$22.17 per capita in 1924 and \$3.65 in 1918. The high per capita rate in 1924 was due to war compensation payments to veterans. The 1925 payments above named included the sum of \$646,044 for education, apportioned to the minor State divisions. Expenses totaling \$302,968 for public service enterprises, \$1,257,324 for interest on debt and \$791,140 for permanent improvements, added to the payments for maintenance and operation of State departments, made the total of State payments \$14,802,998. For highways was expended the sum of \$123,359, of which \$23,488 was for maintenance and \$99,971 for construction.

Revenue receipts of the State were \$14,943,728, or \$8.25 per capita. They exceeded by \$871,870 the total payments except those for permanent improvements, and also exceeded, by \$80,730, the total with these included. Property and special taxes formed 64.5 per cent of the total revenue in 1925, as against 64.5 per cent in 1924 and 56.1 per cent in 1918. Earnings of the general departments and compensation for officials' services furnished 18.3 per cent of the 1925 revenue; business and non-business licenses, 8.4 per cent. State license receipts were derived chiefly from taxes on corporations and from the licensing of motor vehicles. Proceeds of gasoline sales taxation on the other hand were credited to the counties.

The net indebtedness of the State on June 30, 1925, was \$26,704,544, or \$14.74 per capita, as against \$14.95 per capita in 1924. The assessed valuation of property subject to State tax was \$3,559,425,948. The State tax levy was \$8,348,934, or \$4.61 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 9493. New construction in 1926 totaled about 11 miles of track.

**EDUCATION.** The State law requiring that each school district make a minimum expenditure of \$5 a year for library books acted to promote the growth of a system of school libraries. The tendency of the law was to cause the introduction of books into the schools at the aggregate rate, for the entire State, of some scores of thousands of volumes each year. A map of the State, showing position and number of the consolidated schools in the State, prepared by the Kansas State Teachers' College and revised to May, 1926, showed 159 consolidated schools, situated in 58 counties of the State, or approximately half of the counties. The consolidated schools were most numerous in the south-central portion of the State, where Sedgwick County alone had 11.

According to figures of the State department of education, supplied at the close of the calendar year, the school population of the State was 543,746. The pupils enrolled numbered 461,934. Of these there were enrolled in common schools 320,175; in junior high schools, 27,424; in senior high schools, 77,235. Expenditure for education in 1926 amounted to \$35,753,141. Salaries of teachers averaged, in rural schools, \$100 a month; in high schools, \$125 a month.

**CHARITIES AND CORRECTIONS.** The State Board of Administration has full control of charitable, penal and certain of the public educational institutions. The chief of these institutions with the numbers of their respective inmates were reported at the close of 1926 as follows. Charitable institutions: Topeka State Hospital, 1655 inmates; Osawatimie State Hospital, 1362; Larned State Hospital, 601; State Hospital for epileptics, Parsons, Kan., 638; State Training School, Winfield, 831; State Sanatorium for Tuberculosis, Norton, 97; State Orphans' Home, Atchison, 163. Correctional institutions were: Kansas State Penitentiary, Lansing, 1768; State Industrial Reformatory, Hutchinson, 824; Women's Industrial Farm, 193; Boys' Industrial School, Topeka, 355; Girls' Industrial School, Beloit, 157. Educational institutions under the charge of the Board were: School for the Blind, Kansas City, 103 pupils; School for the Deaf, Olathe, 200; Western University, Kansas City,

220; Kansas Vocational School, Topeka, 150.

**POLITICAL AND OTHER EVENTS.** At the general election of November 2, Governor Ben S. Paulen, running as Republican candidate to succeed himself, was reelected, defeating former Governor Jonathan M. Davis, Democrat. Senator Charles Curtis, Republican, was reelected to the United States Senate, for the six year term beginning March 4, 1927, over his Democratic opponent Charles S. Stephens. The chief State officers were reelected, with the exceptions following: for Auditor of State, Will J. French was chosen; for Attorney-General, William A. Smith.

The trial of former Governor Jonathan M. Davis and of Russell Davis, his son, on a charge of having taken a bribe for the issuance of a pardon, ended April 3, in an acquittal. Mayor W. W. Gordon of Kansas City, Kas., was suspended from exercise of his functions, September 16, to await the result of ouster proceedings against him on charges of having given protection to vicious persons. Litigation was carried on in the State courts over the validity of drainage districts organized for flood protection under a statute of 1903. It was asserted in quo warranto proceedings against the Lyon County drainage district that the statutory permission to organize districts by petition and election was an unconstitutional delegation of power. The decision of the Lyon County court was adverse to the district. The State Supreme Court, treating the Lyon County action as a test case, ordered argument in the February, 1927, session of the court, so that a determination of the issues involved might be reached during the legislative session.

**OFFICERS.** Governor, Ben S. Paulen; Lieutenant-Governor, D. A. N. Chase; Secretary of State, F. J. Ryan; Treasurer, Carl White; Auditor, Norton A. Turner; Attorney-General, C. B. Griffith.

**JUDICIARY.** Chief Justice: William A. Johnston; Justices: Rousseau A. Burch, Henry F. Mason, John Marshall, John S. Dawson, W. W. Harvey, and Richard J. Hopkins.

**KANSAS, UNIVERSITY OF.** A State institution of higher education at Lawrence, Kan.; founded in 1864. The 1926 fall registration was 4189, 128 of whom were registered in more than one school, making a total enrollment of 4061, 1539 women and 2522 men, distributed as follows: graduate school, 220; college of liberal arts and sciences, 2487; engineering, 514; fine arts, 322; law, 106; pharmacy, 97; medicine, 248; education, 89; business, 106. The 1926 summer session had an enrollment of 1604, of whom 723 were men and 881 were women. The faculty numbered 376. The endowment fund amounted to \$214,000, and the income for the year, including the balance carried over from 1925, was \$2,302,270.81. There were 175,687 volumes in the library. Chancellor, Ernest Hiram Lindley, LL.D.

**KANSAS CITY, MISSOURI.** See MUNICIPAL GOVERNMENT.

**KANSAS WESLEYAN UNIVERSITY.** A co-educational institution of college rank, under the auspices of the Methodist Episcopal Church, at Salina, Kan.; founded in 1885. The enrollment for the year 1925-26 was 1029. The faculty numbered 36. The income for the year was \$158,000. The endowment was \$264,000. A new Administration Building, to cost \$275,000, was under construction. There were 16,000 volumes in the library. President, L. B. Bowers, D.D.

**KARAFUTO.** The name applied to the Japanese half of the island of Sakhalin (q.v.), which comprises that portion south of the 50th parallel of N. latitude. Area, approximately 13,934 square miles; population, according to the census of 1920, 105,899; estimated Dec. 31, 1924, 169,300. The chief industry is the herring fisheries, although the colony is suitable for agriculture and pasturage. The Japanese government supplies Japanese settlers with seed and domestic animals. There are also valuable forest lands and mines, the chief minerals being coal and alluvial gold. The budget for 1925 balanced at 17,124,303 yen.

**KATO, VISCOUNT TAKAAKIRA.** Japanese statesman, and member of the House of Peers, and one time Prime Minister, died January 29, in Tokyo, Japan. He was born in 1859 at Nagoya and graduated in law from the Imperial University of Tokyo in 1881. He then served with the Mitsubishi Company for a few years after which he entered the Foreign Office. He was at one time Permanent Secretary to Count Okuma, who was Foreign Minister. Later, Kato became director of the banking bureau of the Finance Department, which office he relinquished to take charge of the taxation bureau. From 1894 to 1899 he was Japanese Minister to England, and in 1900-01 he was Minister for Foreign Affairs. He sat twice in the Lower House of the Diet and became Foreign Minister in the Saionji Cabinet, resigning when the split came on the question of the nationalization of the railways, to which measure he was opposed. He was created baron in 1911 and was made ambassador to London 1912-13. He was again Foreign Minister in the Okuma Cabinet 1914-15, and was made Viscount in 1916. His later public activities were curbed somewhat by gradually failing health but up to the time of his death his influence was a potent factor in the political life of his country. Kato was one of the giants of modern Japan; he opposed many of the ill-considered schemes hurriedly brought before the House and regretted the headlong modernistic rush which seemed to sweep his colleagues away from the more stable native tradition. He was instrumental in setting on a happier basis relations between Japan and foreign nations, but much of his work was brought to naught by corruption at home. During his period of office as cabinet minister several major cases of corruption in high places were tried, and this fact acted as a depressant on Kato and his few faithful colleagues. He was bold in declaring his convictions and in abiding by his avowed intentions, even against great opposition by his political antagonists.

**KAWAMURA, VISCOUNT KAGEAKI.** Japanese soldier, died April 28. He was born, 1859, in Satsuma and early in life showed a disposition toward military matters. In the China-Japan War he commanded a brigade, and later a division. In the Russo-Japanese War he was a division commander and displayed such strategic ability that he led the army which formed the extreme right in the Battle of Mukden. His accumulated experiences led him to attempt the formulation of a strategic code, but his great strength lay in his personality and leadership. In 1905 he was a member of the Supreme Military Council, and in 1907 he was created viscount for his services to the Armies of his country. He was decorated by the Emperor with the First

Class Order of the Golden Kite and was made field marshal in January, 1915. From that time until his death he lived in retirement.

**KEMP, JAMES FURMAN.** American geologist and professor of geology at Columbia University, died at Great Neck, N. Y., on November 17. He was born in New York City, in 1859, and graduated from Amherst College in 1881, later studying in the School of Mines, at Columbia University and receiving the degree of F.M. in 1884. He studied in Germany at Munich and Leipsic, and from 1886-91 was instructor, and assistant professor of geology at Cornell University. In 1891 he came to Columbia as adjunct professor of geology, and in the following year was made professor of geology, a chair he occupied at the time of his death. He also lectured on geology at Johns Hopkins University, Massachusetts Institute of Technology, and McGill University. Professor Kemp received from Amherst the honorary degree of D.S. in 1906, and that of LL.D. from McGill in 1913. In addition to his teaching he was actively connected with the New York Geological Survey and the U. S. Geological Survey. He was an authority on geology, especially on ore deposits.

Kemp's work in economic geology was also recognized by his election as president of the American Institute of Mining and Metallurgical Engineers, 1912-13, and of the Mining and Metallurgical Society of America of which he was a gold medalist. In 1921 he was president of the Geological Society of America, and in 1894 he was president of the Society of Economic Geology. In 1926 he was the official delegate of the United States by appointment of the President to the International Geological Congress in Madrid. He was a member of the National Academy of Sciences, of the American Academy of Arts and Sciences, of the American Philosophical Society, of the New York Academy of Sciences of which he served as president for several years, of the American Association of Petroleum Geologists, and other learned bodies. He was a corresponding member of the Geological Society of Stockholm, of the Christiania Academy of Science, the Academy of Sciences of Oslo, the Geological Society of Belgium, and the Geological Society of London. He was an acknowledged leader in geological research, and acted in an advisory capacity for many large practical undertakings. He wrote extensively in the field of structural and economic geology and, in addition to his many papers, reports, and monographs, published by government surveys and learned societies, he wrote *Ore Deposits of the United States and Canada* (1893; 3d ed., rewritten, 1900); and *Handbook of Rocks* (1896; 5th ed., 1911).

**KENTUCKY.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,416,630. The estimated population on July 1, 1926, was 2,524,000. The capital is Frankfort.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	3,069,000	101,277,000	\$65,830,000
	1925	3,231,000	85,622,000	69,354,000
Tobacco	1926	428,000	374,880,000	42,736,000
	1925	479,000	387,990,000	62,078,000
Hay, tame	1926	1,156,000	1,528,000	25,484,000
	1925	1,009,000	1,155,000	21,598,000

Crop	Year	Acresage	Pred. bu.	Value
Potatoes	1926	47,000	4,512,000	7,129,000
	1925	46,000	2,760,000	5,520,000
Sweet potatoes	1926	17,000	2,040,000	2,203,000
	1925	14,000	1,260,000	1,928,000
Wheat, winter	1926	258,000	4,773,000	6,348,000
	1925	230,000	3,220,000	5,152,000
Oats	1926	259,000	6,346,000	3,868,000
	1925	247,000	5,187,000	3,060,000
Sorghum (syrup)	1926	51,000	4,845,000 °	2,995,000
	1925	39,000	3,120,000 °	2,876,000

° pounds, ° tons, ° gals.

**MINERAL PRODUCTION.** Primarily a coal producer in the mineral field, the State ranked fourth in 1925 in respect to quantity of coal mined in the year. There were produced 42,882,113 net tons of coal in 1925, as against 45,147,204 tons in 1924; in value, \$77,328,000 in 1925 and \$84,733,000 in 1924. Petroleum production declined somewhat in quantity to 6,764,000 barrels in 1925 from 7,407,000 barrels in 1924, but the value of the total product was slightly higher, being \$15,250,000 (estimated) in 1925 and \$14,592,000 in 1924. Clay products had a total value of \$7,519,239 in 1924 and \$7,610,179 in 1923. Natural gas production was 12,875,000 M cubic feet in 1924 and 11,953,000 M cubic feet in 1923; in value, \$3,432,000 in 1924 and \$3,156,000 in 1923. Gasoline produced from natural gas amounted in 1925 to 10,000,000 gallons, and in 1924 to 7,274,000 gallons; in value, \$1,060,000 (estimated) in 1925 and \$769,000 in 1924. The production of native asphalt made an important gain in 1924, the quantity produced being 274,743 short tons, as against 184,300 short tons in 1923; having a value, in 1924 of \$2,386,557 and in 1923 of \$1,468,396. Stone, sand and gravel and fluorspar were produced in important quantities. The total value of the State's mineral products in 1924 was \$120,510,775; in 1923, \$148,853,786.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$16,289,763. Their rate per capita was \$6.56, as against \$6.46 in 1924 and \$4.34 in 1918. Their total included \$4,758,244 for education, apportioned to the minor civil divisions. Expenses totaling \$631,811 for interest on debt and \$10,518,011 for permanent improvements, added to payments for the maintenance and operation of State departments, made the total of State payments \$27,439,585. For highways was expended the sum of \$12,424,103, of which \$2,984,635 was for maintenance and \$9,439,468 for construction.

Revenue receipts of the State were \$26,288,528, or \$10.59 per capita. They exceeded by \$9,366,954 the total payments except for permanent improvements, and were \$1,151,057 less than the total with these included. Payments in excess of revenue were met from proceeds of debt obligations. Property and special taxes formed 38.9 per cent of the total revenue in 1925, as against 40.8 per cent in 1924 and 64.5 per cent in 1918. Their per capita rate was \$4.12 in 1925, \$3.73 in 1924 and \$2.93 in 1918. Earnings of the general departments and compensation for officials' services furnished 7.9 per cent of the 1925 revenue; business and non-business licenses, 31.7 per cent. State license receipts were derived chiefly from taxes on corporations and on sales

of gasoline, and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$2,456,886, or 99 cents per capita, as against 93 cents in 1924 and \$1.08 in 1918. The assessed valuation of property subject to State tax was \$2,852,011,457. The State tax levy was \$10,037,101, or \$4.04 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4005. There were constructed in 1926 some 21 miles of first track and 26 miles of second track.

**EDUCATION.** Under State law it became possible for county boards of education to levy at the rate of 75 cents on each hundred dollars of taxable valuation, for school purposes. The previously allowed maximum rate had been 50 cents. There was established a standard of educational qualification for school superintendents. They were required to have performed seventy semester hours of standard college work. Those requiring additional college work in order to qualify, and holding certificates under the old standard that did not call for college credits, might have certificates renewed on presenting evidence of having taken the qualifying college work. A measure passed by the State Legislature, and known as the Jones bill, was vetoed by the Governor. This measure, if it had become a law would have reinstated the abandoned method of selecting the county superintendents by popular vote. The selection of the county superintendents by appointment of the county boards of education, established in 1920, while generally welcomed by the educational authorities, had been opposed by those unfriendly to the dissociation of educational activity from politics.

In the school year ending June 30, 1926, there were 699 high schools, with a total enrollment of 47,649, of which 34,566 was white and 1837 colored and 6246 in private secondary schools. The total operating expense for the high schools was \$2,994,636. Salaries of the teachers averaged, for the white high schools, \$1399, and for the colored, \$933. Enrollment in vocational education courses attained 4941, of which a total of 3126 was in agricultural training. The State had in 1926 5913 one-teacher rural schools, 718 with two teachers and 155 with 3 teachers, while 88 had 4 teachers and 177 more than four. Public transportation to and from school was furnished in 42 counties at county expense.

**CHARITIES AND CORRECTIONS.** A system of State hospitals, homes, reformatories and a penitentiary is administered by a nonpartisan State Board of Charities and Corrections, established in 1920, having as its chief executive an appointed Commissioner of Public Institutions. There are among these institutions three insane hospitals: the Eastern State Hospital, Lexington, 1431 inmates (average for year ending June 30); Central State Hospital, Lakeland; 1837; Western State Hospital, Hopkinsville, 1576. The Feeble Minded Institute, Frankfort, had 447. The State Houses of Reform, for boys and girls, at Greendale, had 532; State Reformatory, Frankfort, 1578; and State Penitentiary, Eddyville, 685.

**LEGISLATION.** The State Legislature met, January 4, in regular biennial session. A textbook law was passed, governing the system of purchase of text books for the public schools. It was later attacked by B. W. Hartley, superintendent of the Louisville public school system,

as requiring publishers to render bid prices to stand for a term of years so long as to be impracticable. A bill was introduced in the lower chamber by G. C. Johnson to forbid teaching of evolution in tax-supported schools.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, Alben W. Barkley, Democratic candidate, was elected to the U. S. Senate for the regular six year term, defeating the incumbent, Senator Richard P. Ernst, who was the Republican convention's nominee. The proposed issuance of a permit by the Federal Power Commission to a private company for a hydroelectric development at the site of Cumberland Falls aroused opposition within the State. It was asserted that the scenic value of the falls constituted a resource of the State, which the commission ought not to alienate. Governor W. J. Fields took an active part in the opposition. John W. Langley, U. S. Representative from the 10th Kentucky district, was sentenced January 11 on conviction under the Federal prohibition law, to serve two years in the Atlanta Federal Prison. He resigned his seat on the date of his sentence. His wife ran for his place in a special election held to pick an incumbent for the remainder of the 69th Congress. She was defeated by J. A. Kirk in the Republican primaries January 29. Mrs. Langley was, however, elected from her husband's district to the 70th Congress, at the regular election on November 2.

**OFFICERS.** Governor, W. J. Fields; Lieutenant-Governor, H. H. Denhardt, Secretary of State, Emma G. Cromwell; Treasurer, E. B. Dishman; Auditor, W. H. Shanks; Attorney-General, F. E. Daugherty; Superintendent of Public Instruction, McHenry Rhoades.

**JUDICIARY.** Chief Justice: William Rogers Clay; Justices: Flem D. Sampson, Gus Thomas, D. A. McCandless, R. P. Deitzman, M. M. Logan and William H. Reese.

**KENTUCKY, UNIVERSITY OF.** A State institution of higher education at Lexington, Ky.; founded in 1868. Enrollment in the autumn of 1926 was 2241, distributed as follows: seniors 332; juniors 390; sophomores 596; freshmen 720; specials 68; graduates 135. There were 1138 students registered in the 1926 summer session. The faculty numbered 201. The University consists of seven colleges: Arts and Sciences, Agriculture, Engineering, Law, Education, Commerce, and Graduate School. During the year a new stock judging pavilion, a new theatre, and an engineering shop have been constructed. Productive funds amounted to \$184,075, and the income for the year to \$852,535.50. The library contains 72,000 volumes. President, Frank Leonard McVey, Ph.D., LL.D.

**KENYA COLONY AND PROTECTORATE** (formerly the EAST AFRICA PROTECTORATE). A British colony and protectorate in East Africa lying on the Indian Ocean between the Umba and Juba rivers and extending inland as far as Uganda; a crown colony and protectorate since 1920. Area, 209,248 square miles, excluding Jubaland (35,812 square miles); population in 1924 estimated at 2,475,059, including 11,002 Europeans, 24,771 Asiatics, and 9753 Arabs; Jubaland has about 16,000 inhabitants. Jubaland was acquired from Italy by the treaty signed between Italy and Great Britain July 15, 1924, and cession took place on June 29, 1925). Nairobi is the capital and has a population of 23,660 in-

habitants, of whom 3298 are European. The largest town is Mombasa, with a population of about 39,727 of whom 822 are Europeans. In 1924 there were nine government schools in operation including three European, and over 900 mission and native schools. The agricultural products include rice, coconuts, cotton, simsim, groundnuts, cassava, and sugar cane in the low lying areas. In the highlands where the temperature is moderate and the rainfall good, maize, wheat, sisal, and other crops of lesser importance are grown. The merchantable forest covers an area of more than 3600 square miles, of which 316 miles are tropical. The mineral resources are considered rich but are not fully explored as yet. Kenya and Uganda (q.v.) are united under one customs tariff and hence the exports and imports of both are not separated. The chief imports are rice, other grain and pulse, liquors, salt, tobacco, coal, timber, building materials, cotton and woolen goods; the chief exports are cotton, coffee, maize, chillies, fibres, hides and skins, carbonate of soda, seeds, ivory, groundnuts, copra, and rubber. In 1924 the imports were valued at £6,178,547 and the exports £6,137,009. The budget estimates for 1925 were: Revenue, £2,093,460; expenditures, £2,091,697. The main railway line is the Mombasa-Victoria railway, owned by the state, with a length of 618 miles. The colony is governed under the constitution of January, 1924, which provides for an executive and legislative council. Governor and Commander-in-Chief at the beginning of the year, Lt.-Col. Sir Edward W. M. Grigg.

**KENYON COLLEGE.** A college of arts and sciences for young men at Gambier, O., established in 1824 by the Protestant Episcopal Church, and connected with it. The enrollment is limited to 250 young men. The number registered for the autumn of 1926 was 261. The faculty numbered 21 members and during the year three new appointments were made as follows: Philip W. Timberlake, Ph.D., assistant professor of English; John Coulson, Ph.D., assistant professor of physics; Bruce H. Redditt, M.A. assistant professor of mathematics. The endowment funds amounted to \$1,570,400 and the income for the year \$183,500. The library contained about 35,000 volumes. The Samuel Mather Science Hall, the gift of Henry G. Dalton of Cleveland, and costing \$350,000 was dedicated during the year. President, William F. Peirce, L.H.D., D.D., LL.D.

**KERLMER, OTTO.** Dutch painter, died at Groningen October 5. He was born in Holland in 1837 and early in life gave evidence of great skill in the painting of animals. His pictures have the atmosphere of the outdoors and the wild life of the open spaces, and they are particularly esteemed for the strong suggestion of movement of the animal subjects. A collection of his paintings is in the possession of the Dutch Royal Family and a number of them are to be found in the Chicago Museum.

**KEY, ELLEN.** Swedish author and feminist, died at her country home near Lake Vattern, Middle Sweden, April 25. She was born at Sundholm, Smaland, in 1849, her parentage being Swedish mixed with Scotch and English blood. Her family was aristocratic and had supplied statesmen to the Swedish government for several generations. She was educated at home and at the age of twenty she became secretary to her father who was a member of the Riksdag. By 1870 she

was making a name for herself as a literary, historical and sociological essayist. She took up teaching as a means of spreading her ideas and taught at the People's Institute, Stockholm, from 1880 to 1899. For the next eleven years, Miss Key was mostly away from Sweden, engaged in lecturing and gaining experience of social conditions abroad; in her lectures she was forceful to a degree and aroused a great deal of criticism both by her writings and her platform utterances. As a feminist she represented a very advanced school of thought and brought on herself the bitter hostility of many of her contemporaries. She was particularly interested in the development of the United States and certain American writers drew her fervent admiration. Her influence on American sociologists was a weighty one and traces of this influence can be found in the writings of some of America's foremost students. Among foreigners who greatly admired Miss Key may be named Maeterlinck, George Brandes, George Bernard Shaw and Havelock Ellis. She had very advanced views on sex questions, on love and marriage and aimed to destroy many of the hitherto accepted standards of moral conduct. It was the loss of her father's fortune which made her go out as a teacher among her own people, and so successful did she become that she was frequently called the "Pallas of Sweden." Naturally, her writings have influenced the development of Swedish literature more than that of any other nation; in her own and foreign languages she published more than thirty volumes. One of the most useful of them is her *Century of Childhood*, which is a survey, in philosophico-historical vein of the progress of elementary education through the course of the nineteenth century.

Other important works are: *Love and Marriage*; *The Morality of Women*; *Love and Ethics*; *The Woman Movement*; *The Renaissance of Motherhood*; *War, Peace and the Future*.

**KIAOCHOW**, *Kyü'g-chou'*. A former German possession now in the hands of China. It comprises a city, harbor, and district on the eastern coast of the province of Shantung; seized by Germany in November, 1897; captured by Japan in November, 1914; administered by Japan, under a mandate in accordance with the Treaty of Versailles, but returned to China by Japan, Dec. 1, 1922, in accordance with the Washington agreement, Japanese troops evacuating it two weeks later. The land area is about 200 square miles; population about 227,000, but, including a neutral zone around the bay with an area of some 2500 square miles, the population is estimated at 1,427,000. The chief city and port is Tsingtao.

**KINDERGARTEN ASSOCIATION**. See NATIONAL KINDERGARTEN ASSOCIATION.

**KIWANIS CLUBS**. Clubs made up of two of the leaders in each business and profession in each community, united for the rendering of civil and social service to the community. Each club is a separate entity, but functions in direct connection with the Kiwanis International headquarters at Chicago. The name "Kiwani" is a word coined to express the constructive unselfish work of Kiwanians. The motto of the organization, "We Build" is also an expression of its spirit. The first club was organized at Detroit, Mich., in January, 1915. The first national president was George F. Hixson, elected in May, 1916, and elected International President in

1917, the organization having spread into Canada. The aims of the organization are to crystallize community sentiment for municipal improvements, to cultivate public opinion for purer politics, and to promote community coöperation in all good things. John H. Moss, Milwaukee, Wis., was the president for 1925-6, and for 1926-7 Ralph A. Amerman, Scranton, Pa., other officers being Fred C. W. Parker, secretary; Henry C. Heinz, treasurer. The headquarters are in the Federal Reserve Bank Building, 164 West Jackson Boulevard, Chicago, Ill.

**KLEIN, FRANZ**. International jurist and former Austrian Minister of Justice, died in Vienna, April 6. He was born in Austria in 1855. During his university days he was attracted to the study of law by appreciating the obvious deficiencies of the existing code, and he determined to rectify this situation. At the age of thirty he was appointed Director of the Chancery of Vienna University, a post he held until 1891. He framed the process of civil law which was adopted by the Austrian Government in 1893. From this time he began to take a deeper interest in International Law and to propose alterations for the common good of the nations. On account of his great experience and international standing, he was the leading Austrian delegate to the Peace Conference at St. Germain in 1919.

**KNEELAND, STILLMAN FOSTER**. American soldier, lawyer, author, and artist, died at his home in New York City, August 30. He was born in Quebec, May 17, 1845, and was educated at McGill University, Montreal. Before he was twenty years old he went to the United States and joined the Union Army in the Civil War. Entering the army as a private, his first action was at the Battle of the Wilderness and later he fought in the Shenandoah Valley and was wounded severely in the Battle of Petersburg. After the War he was very active in National Guard affairs in Vermont and later in New York. Admitted to the bar in 1869 he began practice in New York City in 1872 and experienced unusual success as a lawyer adding to his fame by the publication of several law treatises.

Elected to the Assembly in 1894, he framed the law abolishing perpetual imprisonment for debt and also that limiting imprisonment for civil contempt to six months. For two years from 1896 General Kneeland was Judge Advocate General on the staff of Governor Black. He was Vice President of the Department of Painting of the Brooklyn Museum of Arts and Sciences, and a Fellow of the Royal Geographical Society of London. His best known works are: *A Treatise on Commercial Law*; *Random Rhymes of a Busy Barrister*; *Kneeland on Mechanic's Liens*; *Law, Lawyers and Lambs*; *Seven Centuries in the Kneeland Family*; and *Kneeland on Attachments*.

**KNEISEL, FRANZ**. An eminent American violinist died in New York, March 26. He was born, of German parents, at Bucharest, Jan. 26, 1865. A very precocious pupil of Grün and Hellmesberger at Vienna, he made his début there on Dec. 31, 1882, became concert-master at the Hofburg Theatre and, a year later, of the Bilse Orchestra in Berlin. In 1885 Gericke engaged him in the same capacity for the Boston Symphony Orchestra, with which organization he made his American début, playing the



Beethoven Concerto (Oct. 30). The following year he founded the Kneisel Quartet, associating with himself E. Fiedler, Louis Svecenski (q.v.) and Fritz Giese. Very soon this organization won international reputation and for many years it was unrivaled in America, and equaled, but never surpassed, by only a few of the most famous quartets of Europe.

What Theodore Thomas did for orchestral music in America the Kneisel Quartet did for the cause of chamber-music. After a most distinguished career of 32 regular subscription seasons in Boston and 25 in New York, besides tours of the United States, Canada and Europe, the organization was disbanded in 1917, the final concert taking place in New York, on April 3. Throughout all those years Kneisel and Svecenski retained their respective places as first violin and viola, while the desk of the second violin was occupied at different times by Otto Roth, J. von Theodorowicz, Julius Roentgen and Hans Letz, Alwin Schroeder and Willem Willeke playing the cello.

In recognition of his distinguished service for the cultivation of chamber-music Yale (1911) and Princeton (1915) conferred upon Kneisel the degree of Mus. Doc. In 1903 he resigned as concert-master of the Boston Symphony Orchestra and in 1905 he accepted the appointment as head of the violin department at the Institute of Musical Art in New York, a position which he filled till his death. At the World's Fair in Chicago (1893) he conducted the concerts of the Boston Symphony Orchestra and in 1902 and 1903 he was associate conductor of the Worcester Festival. He published *Advanced Exercises for the Violin*, a collection of pieces for violin and, with Harold Bauer, Brahms' sonatas for violin.

**KNIGHTS OF COLUMBUS.** A fraternal society for Catholic men, organized under a special charter granted by the General Assembly of the State of Connecticut, Mar. 29, 1882. It seeks to promote charity, unity, fraternity, and patriotism among men of the Roman Catholic faith throughout the United States and Canada. The Order is composed of a Supreme Council, a Board of Directors, and State and subordinate councils. On June 20, 1926, there were 61 State councils and two territorial jurisdictions. The 2463 subordinate councils had a membership of 722,172. Of these, 237,217 were insurance members and 484,455 were associate members. These two classes developed through deviation from one of the chief purposes of the organization, to urge Catholic men to insure provision after death for those dependent upon them, but expansion in membership permitted others to join the associate class with certain restrictions as to their rights. By the step-rate plan of insurance adopted in 1902, every insured member pays the cost of his own insurance at his own age. The four principles of the Order are charity, unity, fraternity, and patriotism, emphasizing to members the necessity of rendering service in time of illness, death, or distress; the gathering together of men for better citizenship; the value of mutual assistance; and loyalty to duly authorized civil government.

The society offered to ex-service men evening courses in academic, commercial, and trade or technical subjects free of charge, and up to 1926 nearly 300,000 men had attended the schools throughout the country. It also carries on a

correspondence study department for ex-service men and for members of the order.

In 1922, after carefully surveying the field, the Knights of Columbus determined to throw the resources and support of the Order into a programme of Boy Work. A year was devoted to study and analysis of the situation. Numerous authorities on work with boys were consulted and at the Supreme Convention at Montreal in 1923 the tentative programme was adopted. Probably the most significant part of this programme is the two-year Boy Guidance course at Notre Dame University, in which the first class graduated in June, 1926. This course is open to college graduates only and leads to the degree of Master of Arts. This phase of the programme was made possible by a number of scholarships awarded by the Supreme Council and by several State Councils and by the provision of a Chair in Boy Guidance at the University by the Order. The first completed draft of the ritual and programme of the Columbian Squires, as the Junior Order is called, was ready in January, 1925. This was tested, revised, and, together with the initiation ceremony, presented to the Supreme Convention in Duluth in 1925. In 1926 the programme was further developed and the number of Circles of Squires increased.

At the Supreme Convention in Philadelphia, August, 1926, the Directors were authorized to assess the membership to the extent of \$1,000,000, for a campaign of education "to the end that politics of Soviet Russia shall be eliminated from the philosophy of American life and the ideals of liberty of conscience and democratic freedom may extend to our afflicted fellow human beings below the Rio Grande." In accordance with this programme more than 4,000,000 pamphlets containing information on Mexico were distributed, and lecturers were working throughout the United States, informing the public on the Bolshevistic policies and activities of the Mexican régime.

The Order publishes monthly *Columbia*, a magazine containing up-to-date fiction, verse, editorials, articles on business, sport, arts, literature, sociology, religion, and the ordinary interests of the ordinary man. In 1926 it had a circulation of almost 800,000. The headquarters of the Supreme Council are located at New Haven, Conn., and the officers in 1926 were: James A. Flaherty, supreme knight; Martin H. Carmody, deputy supreme knight; William J. McGinley, secretary; D. J. Callahan, treasurer; Edward W. Fahey, M.D., physician; Luke E. Hart, advocate; Rt. Rev. Mgr. P. J. McGivney, chaplain; David F. Supple, warden.

**KNOX, WILLIAM JOHN.** American Chemist and inventor, died at his home in New York City, November 28. He was born in Michigan and was educated in the University of Michigan. He was, for fourteen years, chief chemist for the late George Westinghouse. He was the inventor of the Knox process for cracking petroleum, and he also discovered a germicidal vapor of great value in the treatment of tuberculosis. He was a director of the Petroleum Conversion Corporation, and was a member of the American Chemical Society and of several similar bodies in Europe.

**KOHLER, REV. DR. KAUFMANN,** Jewish reform Rabbi and scholar, died at Cincinnati, Ohio, on January 28. He was born at Fürth, Germany, May 10, 1843. He was educated at the Universi-



ties of Munich, Berlin, Leipzig and Erlangen and came to the United States, becoming Rabbi of the Beth El Congregation, Detroit in 1869. From 1871 to 1879 he was minister of the Sinai Temple at Chicago. In 1879 he left Chicago to take charge of the Temple Beth El in New York, a ministry he held until 1903. His whole career was marked by his determination to introduce reforms into Jewish congregations. To further this end he convened the Pittsburgh Conference in 1885, and during his ministry in Chicago he introduced his greatest innovation, Sunday services in addition to the regular Saturday meetings. In 1903 he was relieved of all rabbinical duties in order that he might become President of the Hebrew Union College at Cincinnati, Ohio, and devote his energies to the expounding of his important theses and to the development of Jewish interests in the U. S. In 1921 he was made president emeritus and during his long tenure of this presidency he wrote many of the works which have made his name internationally famous. He was editor in charge of the departments of theology and philosophy in the *Jewish Encyclopedia*, as well as editor of two weeklies, the *Sabbath Visitor*, (1881-82), and the *Jewish Reformer*, (1886). Chief among his many publications are: *Der Segen Jacobs*, (1869); *On the Song of Songs*, (1878); *The Ethical Basis of Judaism*, (1887); and *Jewish Ethics*.

**KOREA or CHOSEN.** A peninsula of eastern Asia, belonging to the Japanese Empire since the treaty between Japan and Korea, Aug. 22, 1910. Capital, Seoul.

**AREA AND POPULATION.** The area is given at 85,223 square miles; population, according to the census figures of Jan. 1, 1925, 19,519,927, as compared with 17,288,989 in 1920. The foreigners number slightly more than 25,000, the vast majority of whom are Chinese. At the end of 1924 the largest cities with their populations were: Seoul, 297,465 (77,587 Japanese); Pusan, 82,393 (35,926 Japanese); and Pyong-Yang, 102,674 (21,672 Japanese).

**EDUCATION.** For the education of the Japanese there were in 1923 438 elementary schools with 52,309 pupils, 8 middle schools with 3321 pupils, and various technical and special schools for boys and girls. For the education of the Koreans there were 1099 common schools with 306,358 pupils, 44 private common schools with 10,284 pupils, and 17 higher common schools with 4928 pupils, as well as several industrial and technical schools. There are besides a number of Christian mission schools for boys and girls and there has latterly been an increase in technical and commercial schools.

**PRODUCTION.** Although there had been a remarkable increase in industrial production in three years, the country remained predominantly agricultural. The main crops are rice, barley, wheat, beans, grains of all varieties, tobacco and cotton. Fruit raising, silk worm culture, and stock raising are also important occupations. The cattle are celebrated for their size and quality. During 1925 all the principal crops registered increases of 6 to 20 per cent except millet, which barely held its own. The area under rice crops is approximately 3,900,000 acres, and the production in 1925 was estimated at 75,000,000 bushels, about one-third of which was exported to Japan. The wheat yield was 11,000,000 bushels; barley, 40,000,000; soya beans, 22,000,000 bushels; and millet, 25,000,000 bushels. The cotton crop, 75

per cent of which is of the American upland variety, was estimated at 210,000,000 pounds of seed cotton, an increase of 15 per cent over the preceding year. Stimulated by the government programme for increasing the production of silk cocoons to 1,000,000 koku in the next ten years, the yield for 1925 reached 285,000 koku, or about 1,450,000 bushels, a gain of 17 per cent. The total value of Korea's principal agricultural products approximated 600,000,000 yen in 1925.

Mineral resources include gold, copper, iron, and coal, which, though abundant, have not been fully developed on account of inadequate means of transport. The mining industry revived somewhat during 1925. An increase in the price paid for gold bullion gave a fresh impetus to gold mining. The output of coal, which is next to gold in importance, increased by 17 per cent to a total of 630,000 tons. The total value of manufactured goods in 1924 was 298,200,000 yen which represented an increase of 26,000,000 yen over the previous year and of 135,000,000 yen over 1922.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, Korea's trade with foreign countries showed moderate advances in 1925 in most respects. The total foreign trade amounted to 681,400,000 yen, as compared with 638,700,000 yen in 1924. Increases in both imports and exports were noted, the advance of 12,300,000 yen in exports being mainly due to large shipments of native rice and tussah silk to Japan, while the gain of 30,400,000 yen in imports is attributable to increased imports of cheaper foreign rice and millet for local food consumption, and of tussah silk brought in from China for reexport to Japan. The trade showed a net export balance of 14,000,000 yen, as against 19,400,000 in 1924.

Trade with Japan represented 81 per cent of the total trade, amounting to 551,600,000 yen, an increase of 33,200,000 over the preceding year. Both exports and imports increased, with a balance of 82,400,000 yen in favor of exports, approximately 12,400,000 less than in 1924. Gains in exports to Japan were noted for rice—the result of higher prices, since the quantity was less by over half a million bushels—tussah silk, cocoons, raw silk, and wood pulp. Decreases occurred in exports of soya beans, fish, lumber, ginned cotton, gold ore, and fertilizers. Increased imports from Japan were recorded for rice, silk tissues, wheat flour, ginned cotton, cotton yarn, and textiles. Decreases in imports, though relatively small, were spread over a large number of items, the most important of which were sugar, lumber, and woolen tissues.

Trade with other countries than Japan amounted to 129,700,000 yen, representing but 19 per cent of the foreign trade as a whole, but registering an increase of 9,500,000 yen in which both exports and imports shared. Total imports from other foreign countries than Japan amounted to 105,300,000 yen, while exports, practically all of which went to China, amounted to 24,300,000 yen; leaving an import balance in trade with foreign countries other than Japan of 81,000,000 yen, about 5,600,000 in excess of the previous year, and practically an offset to the export balance of 82,400,000 in the trade with Japan. Among the imports, millet for food and tussah silk for reexport to Japan were the most important, followed by lumber, coal, Chinese grass cloth, petroleum, beans and bean cake, rice,

cotton textiles, salt, woollens, tobacco leaf, gasoline and machinery, in order of value.

**FINANCE.** The budget for 1925-26 provided for an ordinary revenue of 143,464,889 yen and an extraordinary revenue of 29,927,749 yen. The ordinary expenditure for the same year amounted to 136,456,826 yen and the extraordinary to 36,935,812 yen. The main sources of revenue are taxes and public undertakings. The public debt on Mar. 31, 1924, amounted to 227,104,000 yen.

**COMMUNICATIONS.** The foreign-going shipping that entered at the open ports in 1924 had a tonnage of 861,866, and those that cleared a tonnage of 817,226. No later statistics on railways were available than those given in the preceding YEAR BOOK, when the total mileage open for traffic was 1189.

**GOVERNMENT.** Korea is considered an integral part of Japanese territory. The governor-general in 1926 was Baron Minoru Saito (appointed September, 1919).

**KOWEIT, SULTANATE OF.** See ARABIA.

**KU KLUX KLAN.** The year 1926 saw a number of setbacks for the Klan. It lost several political battles, it was shaken in its stronghold, Indiana, by a grand jury investigation, and its membership strength as visibly symbolized by the parade at Washington showed a large falling off. According to some observers, the Klan was no longer to be feared in politics or by its foes, and it was only its secret mode of operation which made its opponents credit it with great strength. That this was one of the reasons for the Klan's policy of secrecy was indeed admitted by Imperial Wizard Hiram Wesley Evans in his defense of the organization published in the *North American Review*.

The political correspondent of the *New York Times*, basing himself on the results of the September primaries, predicted the impending collapse of the Klan as a political factor. The principal political defeat of the Klan was the failure of the Klan-endorsed Senator Rice W. Means of Colorado to receive the nomination for reelection. Senator Means was one of the brightest stars in the Klan organization and was being considered for national command. He was defeated, however, on a straight Klan issue. In Indiana the legislature elected in November was free of Klan influence, according to Thomas H. Adams, chairman of the committee of the Indiana Republican Editorial Association which investigated the Klan.

The Klan also sustained a defeat in the Kansas primaries. In Texas, where it was defeated in 1924 through the efforts of Dan Moody, it was completely silent. In Alabama, however, it gained new strength politically when it was able to dictate the selection of Black to succeed Senator Underwood, who had been one of the staunchest opponents of the Klan in the country. Black was chosen at the Democratic primaries and elected Senator in November. In Maine Governor Brewer was stated to be of definite Klan leanings. Both he and the Klan opposed Arthur F. Gould, the successful candidate for the U. S. Senatorship. The issues of that election, however, were quite mixed.

The Klan was reported to be thriving in the states of Illinois, Wisconsin, Missouri, Nebraska, and Iowa. Activity was reported also in Northern New York, where the Klan was instrumental in polling a sufficiently large vote for Cristman to defeat U. S. Senator Wadsworth in his cam-

paign for reelection. The candidate elected was R. F. Wagner, a Democrat and a Roman Catholic.

**INDIANA.** The workings of the Ku Klux Klan in Indiana were officially investigated for three months by the Grand Jury of Marion County. The jury examined over 250 witnesses. The investigation was handicapped by political difficulties, and at the end of the year it seemed likely that these difficulties would prevent the jury from returning definite indictments. Agitation for the investigation developed during the late summer, when a number of Republican editors, aided by 50 former lieutenants of D. C. Stephenson, ex-Grand Dragon serving a sentence for murder, delved into the operations of the secret organization. The exposé which they published forced the Grand Jury to act. Immediately, however, the political officials who had been put into power by Stephenson and his lieutenants did all in their power to keep the truth from coming out. Governor Jackson and his administration were accused of trying to keep Stephenson in prison in order to prevent him from testifying. Habeas corpus proceedings designed to remove Stephenson from prison were opposed by Attorney General Gillom. See INDIANA.

When at the height of his power Stephenson was said to have dictated legislation, controlled the Governor, and harassed industry by threats to exercise his power in councils of the State. According to Mr. Adams (whom we have already cited), Stephenson controlled 21 States and had mayors of cities acting at his bidding. As a result of the exposé and the Grand Jury investigation the Klan membership in Indiana was cut down from 169,000 to 50,000.

**KLAN PARADE.** As in 1925, President Coolidge declined to answer the Klan invitation that he participate in the national parade. The parade was held in Washington on Sept. 13. Klan officials claimed that 200,000 marched, but newspaper despatches gave the number at 12,000 to 13,000. These figures contrast with the 160,000 claimed for last year's parade and the newspaper estimates of 40,000 to 50,000 as actually marching. According to the *New York Times* there were only 2000 marchers from New York, but there was an increase in the number of marchers from New Jersey and Virginia. The Klan was barred from participation at the Sesqui-Centennial Exposition in Philadelphia, after protests against the "Invisible Empire" were sent to Mayor Kendrick.

Last year the YEAR BOOK discussed the defense of the Klan that appeared in the *Forum*. This year a more elaborate and eloquently phrased defense (also from the pen of Imperial Wizard Hiram Wesley Evans) appeared in the columns of the *North American Review*. Dr. Evans accepted the charge of emotionalism leveled at the Klan and seemed to glory in it. He also insisted that it was a movement of the uncultured people and tried to give it a religious and democratic tinge at the very time that he preached the doctrine of racial superiority and religious intolerance.

"The Klan," he said, "speaks for the great mass of Americans of the old pioneer stock." The old-stock Americans are then defined as a "blend of the so-called Nordic race, the race which, with all its faults, has given the world almost the whole of modern civilization." Elsewhere in the article Dr. Evans takes his stand

on the supremacy of the Bible, and makes the mission of the Klan not so much the anthropological expression of the Nordic race as a crusade for the restoration of the sacredness of the Sabbath. The 'foreigner' is blamed by Dr. Evans for the prevalence of birth control, not because he practices it, but because he dominates the cities and thus makes the Nordic American fear to bring many children into the world. The Roman Catholic is attacked for his international affiliation, and in the case of the Jew, who has no international organization, the argument is shifted to pseudo-anthropological grounds. The Jew, Dr. Evans repeats with Madison Grant and Burton J. Hendrick, is not the lineal descendant of the Jews who crucified Christ: he is worse than that, he is a mongrel Asiatic converted to Judaism in the eighth century. And of course, as regards the Negroes, the Klan is according to Dr. Evans their best friend, that is to say, the friend who knows best what is good for them.

**KURDISTAN**, kôor'dê-stân'. A more or less vague term applied to a region in eastern Asia Minor, comprising a portion of Turkey and the northern section of the vilayet of Mosul in the new independent state of Irak. (See MESOPOTAMIA.) The inhabitants are Kurds, a seminomadic people related to the Persians in race and language. The population is estimated at 2,500,000. Shortly after the World War there was an attempt to create an independent Kurdistan. The movement was completely crushed by the failure of the Treaty of Sèvres, after which the Kurds remained divided in political allegiance to the Turkish, Persian, and Mesopotamian governments.

**KWANGCHOW-WAN**, kwîng'chô'wân. A small territory on the coast of the Chinese province of Kwangtung, leased to France in 1898, and two small islands commanding the bay leased to her in the following year. Area, about 190 square miles; population estimated at 208,044. In 1924 the imports were valued at 5,722,035 piastres and the exports at 6,495,379 piastres. The chief imports are cotton yarns, opium, and petroleum; the chief exports, straw sacks, swine, and mats. The port is free and is regularly visited by two French steamship companies. In 1924, 204 vessels of 122,809 tons entered. The local budget for 1925 balanced at 540,000 piastres. The administration is under the governor-general of French Indo-China.

**KWANTUNG**, kwân'tung', or KWANTAO. A territory at the southern part of the Liaotung peninsula, leased by China to Japan, as a successor to Russia after the Russo-Japanese War. Area, about 538 square miles; population, Oct. 1, 1924, 1,056,076, of whom 856,385 were Chinese, 186,045 Japanese, 10,850 Koreans, and 2796 Americans and Europeans. The latest statistics on education showed 42 elementary schools with 10,246 pupils for the instruction of Japanese, and 141 schools with 23,250 pupils for the instruction of natives. The agricultural products include rice, tobacco, hemp, and various grains and vegetables. The fishing industry is of importance. There is an abundance of salt which is the chief manufacturing product. Trade is mainly with Japan and China. Imports in 1923 were valued at 96,088,053 haikwan taels and exports at 133,438,067 haikwan taels. The seat of the administration and the chief port is Dairen, formerly Dalny. The territory is under a Japanese governor-general.

**LABOR**. Discussions of various aspects of the economics of labor will be found under the following heads: CHILD LABOR; COÖPERATION; LABOR ARBITRATION AND CONCILIATION; LABOR CONFERENCE, INTERNATIONAL; LABOR LEGISLATION; MINIMUM WAGE; OLD-AGE PENSIONS; STRIKES AND LOCKOUTS; UNEMPLOYMENT; WOMEN IN INDUSTRY; WOMEN'S COMPENSATION. The work of American labor unions is treated in the article LABOR, AMERICAN FEDERATION OF; while the history of European organized labor will be found under the head of TRADE UNIONS.

The outstanding phases of American Labor history for the year were the settlement of the coal strike early in the year, the establishment of a Federal board to handle railway labor disputes (see LABOR LEGISLATION), the continuance of high wages in the skilled trades, the spread of the five-day week and its endorsement by the American Federation of Labor, and the general maintenance of conservative policies despite the Communist challenge in the East. The continuance of economic prosperity in America made the year a fairly comfortable one for labor. There was some unemployment in a number of industries, particularly in textiles and in the automobile industry, but organized labor was not greatly affected. The depression in the automobile industry led Henry Ford to organize his plants on a five-day week. This five-day week plan was eagerly taken up by the American Federation of Labor and championed as the best method of preventing overproduction and consequent unemployment. (See LABOR, AMERICAN FEDERATION OF.)

High wages and good working conditions were responsible for the continuance of conservative policies by American labor officials. An indication of the conservative temper of American labor was furnished by the lack of interest in the Supreme Court decision of October 25, which declared that the legislature of any State may forbid strikes for certain purposes. The tone of this decision is in line with a whole series of decisions in the last few years which have gone against Labor. Neither the unions nor the general public have been inclined to protest, so long as high wages were dominant. (See STRIKES.) The conservative leadership of American labor was also manifested in the cold reception given in this country to the British General Strike. President Green of the American Federation of Labor in a public statement expressed his sympathy with the cause of the British miners, but condemned the method of the general strike. American labor, he pointed out, used the strike weapon purely for economic purposes, and not for political or revolutionary aims.

Only in the East was there any serious attempt to challenge the conservative unionism of the American Federation of Labor. In the needle-trade unions in and around New York the left wing or Communist element gained control and precipitated strikes in the fur trade and in the ladies' garment trade. The furriers' strike was successful, the workers gaining the 40-hour week in those months when there is little work. But its success was won at the price of strong-arm methods, which were bitterly denounced by the American Federation of Labor officials. A fight within the union was in prospect. The cloak-makers' strike, on the other hand, was probably the greatest disaster in the history of that union. The strength of the organization was

shattered, and it was with great difficulty that the conservative element was able to regain control at the end of the year of the remnant of the union organization. In the New Jersey textile trade a strike was organized by Albert Weisbord, a professed Communist, but the management of the strike and of the union was voluntarily turned over to the American Federation of Labor in order to allow a settlement to be negotiated with the mill owners. Charges of a Communist conspiracy to capture the United Mine Workers of America were made at the American Federation of Labor convention in Detroit. However, the December elections, which resulted in the overwhelming victory of the conservative party among the miners, proved that the alarm was premature.

The miners' union emerged none the weaker after their five and a half months' strike. In the soft coal industry an improvement was noticeable on account of the British strike, and wages were increased even in non-union territory. Less than six months after coming into existence under the Watson-Parker Act, the United States Board of Mediation awarded a 7½ per cent wage increase to trainmen and conductors on the Eastern railroads. The award was followed by the granting of a smaller increase to railway expressmen. These official awards led union labor generally to hope for higher wages in 1927.

The *Monthly Labor Review* gives the following figures on trade union membership in the United States in 1926: total number affiliated with unions in the United States and Canada, 4,443,523; total number in A. F. of L., 3,383,997; independent unions, 1,059,526 (including 30,000 affiliated with the I. W. W.). For Canada it cites the 1924 figures compiled by the Department of Labor of Canada, and these show that in that year 134,454 Canadians were affiliated with the A. F. of L., and 67,527 with the independent international unions. Included in this last number were 11,500 members of the I. W. W. The same review also cites the figures compiled by a German authority on the working population of all countries.

**LABOR, AMERICAN FEDERATION OF.** The forty-sixth annual convention of the Federation was held at Detroit October 5 to 13. The fact of holding the convention at Detroit precipitated two incidents. One was a clash between the Federation and the Young Men's Christian Association and church bodies, and the second was a debate with Henry Ford on the merits of quantity production.

**THE CHURCHES.** It had been the custom of many years standing for the churches in the city in which the American Federation of Labor held its convention, to ask delegates to speak in their pulpit on the Sunday falling within the convention period. Such arrangements were made for Detroit this year prior to the convention. The Detroit Young Men's Christian Association, in addition, had arranged an afternoon meeting at which President Green was scheduled to speak. Suddenly and at the last minute, the Association and many churches cancelled their invitations at the instigation of the Board of Commerce. No explanations were given for this action aside from the manifesto of the Board of Commerce, but according to newspaper reports one of the Association officials declared that a \$5,000,000 endowment campaign was being planned, and that it was feared that

any cordiality shown to the American Federation of Labor would alienate open-shop manufacturers from contributing to the endowment fund.

The incident occasioned a great deal of comment throughout the country, with the press on the whole siding with labor. In Detroit a mass meeting of protest was held at the First Congregational Church. Dr. W. M. Tippy, executive secretary of the Federal Council of Churches, in his address at that meeting pointed out that not only had the Federal Council indorsed the cause of labor, but that all but a half dozen of its 28 affiliated denominations have issued formal statements affirming Labor's right to collective action through representatives of their own choosing. The Catholic Churches sided with labor. The Rev. John A. Ryan delivered a special sermon to the delegates of the convention and insisted that the Church could not consider the problems of economic justice foreign to its spiritual calling.

**FORD.** The skirmish with Henry Ford also grew out of the open-shop situation. In holding the American Federation of Labor convention at Detroit, it had been the intention of the Federation to begin a drive for the unionization of the automobile industry which has its centre in that city. Whether the Federation had any hopes of unionizing the Ford plants, it is difficult to say. But after a visit to the Ford shops a Federation delegation came out very much depressed. What they had seen of the methods of quantity production in use by the Ford organization struck them as very menacing to the intellectual dignity, and even to the health of the workers. While the working men received good wages, the mechanical monotony of the work and the speeding-up processes were appalling, the delegation reported. After a few years of work in such an organization, the laborer, so it was said, was fit for nothing but the scrap heap. Henry Ford's point of view was explained and defended in the course of newspaper interviews given out by the automobile manufacturer. Mr. Ford held that quantity production was something more than a progressive phase of the industrial revolution that represented factory organization and mechanical power; he held that it was a permanent thing, and that it yielded high wages, shorter hours and distributed prosperity. In an interview written by Samuel Crowther, Mr. Ford also said that the way to keep boys from crime and vice was to give them work at independence wages.

To all this the *American Federationist* replied editorially that Mr. Ford was evaluating work too much in material terms. "Mr. Ford," it went on to say, "has received such joy out of his own creative activities that he ought to appreciate what it would mean to others to have a creative quality in each day's work. If he would turn his genius to the development of production that would salyge the intellectual power of his men now wasted in purely repetitive work, he would initiate an adventure in production far surpassing all he has thus far accomplished."

**THE CONVENTION.** The Detroit convention was officially characterized as having "marked a high level in constructive deliberation." Translated in objective terms, this was to say that the administration had little opposition and that the traditional conservative labor policies of the American Federation of Labor were again

endorsed. To begin with, the Executive Council reported, and the convention endorsed, proposals to prevent the abuse of injunctions by the Federal courts. It was proposed to limit the jurisdiction of Federal equity courts to exclude personal rights. No proposals were made in the case of State courts since not all State legislatures have the right to regulate by legislative enactment the jurisdiction of equity courts. The discussions at the convention made it clear, however, that Labor would always oppose what it regards as the assumption of legislative powers by State courts of equity in issuing injunctions and otherwise interfering with collective bargaining.

The resolution for the curbing of Federal injunctions, curiously enough, came at the very time when the U. S. Supreme Court had decided that the right to strike was not absolute. If the right to strike is not accepted as an absolute one, it is evident that the exclusion of personal rights from injunction proceedings, will not mean the abolition of the injunction in all strikes. See under **LABOR** and under **STRIKES**.

In the field of political action, the convention discussed the direct primary and Soviet Russia. The convention reaffirmed its advocacy of the direct primary and declared that to repeal the direct primary laws under pressure from reactionary sources would mean to revert to definitely known evils of huge proportions. In the case of Russia, the proposal to endorse the Soviet government came not from the Executive Council, but as usual from the floor. The convention refused such endorsement on the ground that the Soviet Government could not be divorced from the Communist Internationale with its constant interference with the labor movements of the world.

It is interesting to note that the American Federation of Labor not only would not have anything to do with Russia—even declining to send a delegation of inquiry to observe the workings of Soviet rule—but that thus far it had refused to affiliate with the International Federation of Trade Unions (a branch of the Second Internationale). Such affiliation seemed about to be consummated in 1915, when the Federation was invited to meet at San Francisco. But the coming of the War and the anti-communist scare after the War destroyed the solidarity which had been built up between American Labor and the trade unions of Europe.

In the field of economic action, the most significant resolution passed by the convention was that which instructed the Executive Council to begin a campaign of education for the shorter work day and the five-day week. The demand for the five-day week was justified, curiously enough, upon economic grounds even more than on the grounds of the human value of leisure. It may be taken as American Labor's answer to the economic problem of quantity production. As the *American Federationist* explains the resolution, "the tendency of modern industry to produce goods in larger and larger quantities calls for a continuing increase in power to buy on the part of the public. When the balance between these two economic forces, the power to produce and the power to buy, is not kept, and producing power gains over buying power, the wheels of industry must stand still until buying power again catches up. This results in unemployment, which in turn makes

consuming power still less because persons not earning have no money with which to buy . . .

"The American Federation of Labor firmly believes that introducing the five-day week is a definite step toward an adjustment that will distribute the spare time over the whole year instead of lumping it in seasonal slumps and unemployment." This is not to neglect the human values of leisure, which, in the opinion of the Federation, are even greater than the economic significance of the five-day week. The extreme specialization of present day industrial work is held to require a longer period of rest in order that the workingman may recover his physical energy and develop his intellectual and spiritual qualities. To be sure, as very little attention has been paid up till now to the problem of the use of leisure, the economic argument for the five-day week must be regarded by students as the strongest reason cited.

Child labor came in for the usual consideration in the report of the Executive Council and the convention went again on record as supporting the ratification of the proposed amendment to the Federal Constitution. (See **CHILD LABOR**.) The convention also commended the permanent Committee on Education for its work in collecting the data upon which a model compulsory school attendance bill can be based.

In the problems of union organization, the convention took up such topics as the South, women workers, the automobile, labor and the Negroes, etc. Each of these heads indicated unused opportunities for further organizing work. It is significant that the organization of Pullman porters was recently undertaken under American Federation of Labor, and that the Federation also took a hand in the organization of women textile operators in New Jersey mills. The organization of the automobile industry was seen to involve new problems for the Federation because of the intermingling of skilled and unskilled workers in that trade, but confidence was expressed that these problems would be worked out. In the case of the South, the labor Chautauqua was suggested as a possible method of educating workmen of that section in regard to trade union principles.

The convention passed a resolution against company unions, which were linked with the open shop as a denial of workers' rights. The convention directed the assembling of data as to the number and strength of company unions and authorized the Executive Council to levy a special assessment to finance an aggressive campaign against this type of organization.

Statistics given out at the convention showed that the average paid-up and reported membership for 1926 was 2,813,910, a decrease of 64,000 from 1925. The loss was explained as due to the suspension of the Railway Mail Clerks Union and to the decrease in the membership of the railway unions.

William Green was reelected president for the new year, and the other national officers were similarly reelected.

**LABOR ARBITRATION AND CONCILIATION.** U. S. BOARD OF MEDIATION. During the year 1926 the U. S. Board of Mediation was created by Congress under the Watson-Parker act to handle railway labor disputes. The principles laid down by Congress for this board are identical with those that have guided the work

of the Conciliation Service of the Department of Labor. It is to be observed, however, that the Federal control of the railways through the Interstate Commerce Commission gives the Board of Mediation a greater power to enforce its recommendations than is enjoyed by the Conciliation Service in its efforts to adjust private disputes.

The first decision made by the Board of Mediation was an award on December 2 of a  $7\frac{1}{2}$  per cent increase in wages to 89,000 conductors and trainmen on the Eastern railroads. The total wage increase is approximately \$15,000,000 a year. The brotherhoods had asked for wage increases of 19 per cent, or \$1 a day, which would have meant a total annual increase of \$38,000,000. As awarded, the wage increase averages about 42 cents a day for each worker. Fifty railroads were affected by the award. At the close of December the same board took up the grievances of the railway express baggage men, and it seemed probable that an increase would be granted to this class of men also.

**CONCILIATION SERVICE.** For the fiscal year 1926 the Department of Labor reported the handling of 551 trade disputes, strikes, lock-outs, and threatened strikes with a view to peaceful adjustment. The conciliation commissioners succeeded in settling 377 disputes, and they aided State and local agencies in adjusting 70 more cases. In only 61 cases were they unable to obtain any settlement, although even in this group of cases a few settlements were eventually reached by the disputants along the lines suggested by the Labor Department. Thirty-five cases which were pending at the close of the previous fiscal year were also adjusted, so that the total number of cases adjusted during the fiscal year 1926 is 412. The accompanying tables detail the number of workmen affected by these disputes over the various months of the year, and the number of cases handled over the period 1914-1926:

Month	Workmen affected		Month	Workmen affected	
1925	Directly	Indirectly	1926	Directly	Indirectly
July .....	33,777	60,851	January .....	19,404	3,212
August .....	14,714	13,861	February .....	22,668	4,971
September .....	16,031	14,020	March .....	17,169	14,895
October .....	7,610	2,286	April .....	26,307	14,017
November .....	107,995	8,656	May .....	28,714	33,837
December .....	3,388	5,500	June .....	10,291	7,024
			Total .....	308,068	177,680

## SUMMARY OF CASES, 1914-1926

Cases	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Number .....	33	42	227	378	1,217	1,789	802	457	370	534	544	559	551
Adjusted .....	28	26	178	248	865	1,223	596	338	266	428	840	392	377
Unable to adjust .....	5	10	22	47	71	111	96	48	41	27	62	64	61
Pending .....		5	21	42	7	13	9	24	31	60	67	42	43
Unclassified .....		1	6	41	66	214	101	47	32	19	69	61	70

Cases pending at end of last fiscal year and now adjusted, 35.  
Total number of adjustments, 412.

It is to be noted that a total of nearly half a million workers were involved, directly or indirectly, in the disputes handled by the Conciliation Service. The general policy of the Department of Labor has been not to intervene unless one or both of the contending parties asks for its good offices. In the case of disputes of unusual or important character, however, the Secretary of Labor assigns commissioners

of conciliation to mediate even though their services have not been solicited. The most important disputes handled by the Conciliation Service during the year were the Anthracite Coal Strike and the Passaic Textile Strike. In the coal strike a settlement was obtained on February 18. Two conciliation commissioners, the director of the conciliation service, and the Secretary of Labor himself took an active part in the negotiations, but the principal stumbling block was the refusal of the coal miners to accept binding arbitration as a provision of the new wage contract. The actual protocol was reached through the personal negotiation of Richard F. Grant, president of the Susquehanna Collieries Co. with John L. Lewis, president of the United Mine Workers. The workers accepted the principle of arbitration in modified form. (For further details of the strike, see STRIKES.)

Another important dispute in which the Department of Labor intervened was the Passaic Textile Strike. This was a walk-out of 11,000 workers organized by Albert Weishord, a professed Communist. The workers sought the restitution of the 10 per cent wage cut of October, 1925, an additional increase of 10 per cent, and the recognition of the union. The intervention of the Department of Labor proved sterile because the operators refused to deal with Weishord as representing the workers. A settlement with one of the mills affected was finally brought about in December, after Weishord had resigned his leadership and the union was taken over by the American Federation of Labor. The fight for union recognition by the other mills was prolonged into the year 1927.

There follow brief summaries of other cases, typical of those handled by the department during the year:

**Cigar Makers, Boston, Mass.** This was a walkout of 1800 cigar makers who demanded the restoration in whole or part of the 1922 wage scale. A compromise

proposition by the employers was rejected, but using this offer as a basis of negotiation, the commissioner of conciliation finally secured a settlement, which granted an increase of \$1.50 per thousand and made certain changes in working conditions.

**Journeyman barbers, New York.** A strike of 1200 men in 700 shops was settled by the arbitration commissioner. The wage increase demanded by the workmen was compromised.

**Plasters v. Bricklayers.** This was a jurisdictional dispute in Indiana. A strike was averted after negotiations lasting some six months, during which the good

offices of the conciliation commissioner were constantly in use.

Carpenters, Columbus, Ohio. 1800 carpenters broke off negotiations and called a strike demanding an immediate increase of 12½ cents an hour and another such increase two months later. The commissioner of conciliation who had his headquarters in Columbus immediately got in touch with the situation and within five days the strike was settled through conferences called by the commissioner. The offer of the contractors for an immediate increase of 12½ cents an hour and an increase of the same amount for the second year, on a two year contract, was accepted by the workers.

KANSAS INDUSTRIAL COURT. A U. S. Supreme Court decision on October 25, upheld the provision of the Kansas Industrial Court Act which declared strikes for certain purposes illegal. (See STRIKES.)

**LABOR CONFERENCE. INTERNATIONAL.** In 1926, for the first time in the history of the official International Labor Organization two sessions of the Conference were held at Geneva. The eighth session, May 26 to June 5, was the regular annual meeting, while the ninth session, June 7-24, like the Genoa Conference in 1920, was devoted entirely to maritime questions. At the eighth session 39 countries were represented, 25 European, seven Latin-American and four Asiatic States, and the British dominions, Australia, Canada and South Africa. The number of delegates was 131 of which 71 were for governments, 29 for employers and 31 for workers. There were also a number of substitute delegates and over 100 technical advisers, making the total official attendance 246. M. Nolens, minister of state and government delegate for the Netherlands, was elected president, while delegates from Cuba, Czecho-Slovakia and Germany were made vice-presidents. In two cases, objection was made to seating of delegates. The Indian employers' delegate was protested by Indian employees' organizations, as representing English rather than Indian interests, but was seated by the Conference on the ground that the opposition candidate had declined to serve. The Italian workers' delegate, M. Rossoni, as in previous Conferences, was protested by the non-Fascist Italian labor unions, and, though seated by the Conference, was excluded by the workers' group from their committee.

The official agenda contained only one question on which a draft convention or recommendation could be adopted, namely, the simplification of the inspection of emigrants on board ship. A draft convention was adopted based on the principle that the official inspection carried out on board an emigrant vessel for the protection of emigrants shall be undertaken by not more than one Government—as a rule that of the country whose flag the vessel flies—in order that the present duplication and overlapping may be avoided. A recommendation was adopted for the protection of emigrant women and girls on board ship. A resolution was also adopted in favor of carrying an interpreter on certain emigrant vessels.

The number of represented countries failing to send complete delegations, i.e., two for the government and one each for employers and employees, was nine less than for any preceding Conference. The plan instituted provisionally by the 1924 Conference of subjecting draft conventions to two readings at successive conferences, with final vote at the second, having proved unsatisfactory, a new procedure was adopted. The chief steps of this new procedure

were (1) discussion by Conference of subject matter concerning conventions under consideration; (2) formation of questionnaires to be sent to governments before next Conference; (3) report on replies of governments, to be published at least four months prior to next Conference; (4) adoption by next Conference of Drafts by final vote. A committee of experts was instituted to assist in examination of reports. Among resolutions adopted were two in furtherance of the interests of Indian workers and one proposed by the Swiss workers' delegate concerning investigation of unemployment.

At the ninth session, which began two days after the close of the eighth, the countries represented were the same, with the exception of Switzerland which, having no maritime interests, did not take part. The number of regular delegates present was 129 and the official attendance, including substitutes and technical advisers, 271. The agenda comprised (1) international codification of the rules relating to seamen's articles of agreement, and (2) general principles for the inspection of the conditions of work of seamen. Two draft conventions were adopted; one concerning seamen's articles of agreement, the other relating to the rights of repatriation of seamen. Recommendations were adopted in favor of measures for repatriation of masters and apprentices and concerning general principles for the inspection of the conditions of work for seamen.

As a result of strenuous opposition, particularly by the British shipping interests and the British government, the Conference failed to include in the draft convention concerning seamen's articles of agreement any reference to the practice of arresting a seaman for quitting his job upon arrival at a port. It refused to set an international standard as high as that in the American seamen's act which by abolishing arrest and imprisonment for "desertion" makes seamen "free men." Instead, the Conference, by resolution, referred this vital matter back to the International Labor Office for "further study." Another resolution asked the Governing Body to place the question of regulation of hours of work on board ship on the agenda of a special maritime session in 1928.

**LABOR LEGISLATION.** In 1926, the legislatures of nine States and the Philippines, and the 69th Congress, met in regular session. Several other legislatures held short special sessions. Notable among new laws enacted were that of New Jersey forbidding courts to issue injunctions in restraint of peaceful activities connected with strikes; the Kentucky old age pension law, and the Federal act abolishing the Railroad Labor Board and establishing new machinery for the settlement of railroad labor disputes. At the Missouri November election, the workmen's compensation act, passed by the 1925 legislature, was ratified by a referendum vote of 561,898 to 252,882.

*Kentucky.* Mechanics' lien law amended; compensation of certain public employees increased; safety laws concerning construction work in cities of the first and second class provided; workmen's compensation law amended; old age pension law enacted.

*Louisiana.* Law forbidding payment of wages in scrip enacted; mechanics' lien law amended; payment of wages by contractors safeguarded; hour limitations for minors between 14 and 18 years of age changed from 10 a day and 60 a week to 8 a day and 48 a week, and exception of stores on Saturdays removed; requirements concerning work certificates for minors



strengthened but those concerning filing and posting lists of employed minors weakened; prohibition against deceiving factory inspectors or interfering with their performance of duty strengthened; general election days, except in certain parishes, removed from list of legal holidays; assisting any laborer between sunset and sunrise, to remove himself or his effects from any plantation or premises without consent of owner or proprietor is declared unlawful with maximum penalty of \$1000 fine or six months in jail or both; workmen's compensation law amended.

**Massachusetts.** Eight-hour law for public employees in certain cases modified; factory ventilation requirements extended to all factories and work shops employing more than one person; school attendance regulations for persons between 16 and 21 years of age is extended to all who have not met requirements for completion of 6th grade; workmen's compensation law amended; commission for investigation of workmen's compensation authorized; retirement systems for public employees modified.

**Mississippi.** Requirement for registration of industrial establishments extended; salary of factory inspectors increased.

**Missouri.** Workmen's compensation act passed by 1925 legislature ratified by referendum vote.

**New Jersey.** Courts forbidden to issue injunctions to restrain peaceful termination of employment, peaceful picketing, persuading others to work or abstain from work, or other peaceful procedure in labor disputes; wages of certain public employees increased; workmen's compensation law amended; retirement systems for public employees expanded.

**New York.** Law concerning garnishment of wages amended; disclosing or aiding, or threatening to disclose without permission of employer, information obtained in the course of employment from books or records of an employer declared a misdemeanor; laws affecting trade unions relative to group insurance amended; prohibition of Sunday work for barbers made State-wide by removing exception of New York City and Saratoga Springs; midway lunch period required for factory employees who work three hours before and three hours after midnight; penal law amended to forbid employment of minors in drug traffic; joint legislative committee authorized to investigate conditions in manufacturing and mercantile business, with special reference to all matters affecting the health, safety and welfare of the working people, to the end, among other things, that remedial legislation be enacted; workmen's compensation law amended; insurance law regarding compensation rates and investment of surplus of state insurance fund amended; law charging to insurance corporations expense of investigating their affairs is extended to all insurers, societies, pension and retirement systems and the State compensation fund; State aid for benefit of physically-handicapped children extended to counties; special rehabilitation fund is made available for general administrative expenses assignable to rehabilitation instead of for compensation and maintenance only; uninsured employers required to pay \$500 into special rehabilitation fund in case of death of injured employee without dependents; public employees' retirement systems expanded; commission for purpose of investigating the condition of aged poor authorized; labor department reorganized pursuant to amendment of State constitution ratified by referendum vote in 1925; salary of industrial commissioner raised from \$10,000 to \$12,000 and his term made coincident with that of governor appointing him; industrial board increased from three to five members, whose salary is raised from \$8000 to \$8500 each; approval of commissioner as well as majority vote of board made necessary for change in industrial code.

**Porto Rico.** Employees' retirement act amended.

**Rhode Island.** Factory and sanitation regulations strengthened; educational requirement for working minors between 15 and 16 years of age raised from completion of 6th to completion of 8th grade; school attendance requirements no longer except minors between 7 and 16 years of age who have completed 8th grade; provisions are weakened in regard to special work certificates, particularly those issued to minors between 15 and 16 years of age judged to be mentally incapable of fulfilling educational requirements; antiquated indenture and apprentice law liberalized; under old law any minor could be bound as an apprentice or servant by parent or guardian, or, if an indigent orphan or child of indigent parents, by overseers of the poor with consent of the town council, whereas as amended, the law requires for every contract of indenture three signatures, those of the employer, the minor and his parent or guardian, a statement of the trade, craft or business which the minor is to be taught and an agreement that he shall receive a certificate at the close of his apprenticeship; age at which a minor, with consent of parent or guardian, may bind himself as

apprentice raised from 14 to 16 and under that age a certificate from the school committee is required; provisions that overseers of the poor with consent of the town council might bind as apprentices or servants indigent minors and certain adults who live idly or squander their earnings and abandon their families repealed; workmen's compensation law amended; joint commission for investigation of workmen's compensation authorized; law regulating maternity hospitals enacted.

**South Carolina.** No labor legislation.

**Virginia.** Mechanics' lien law amended; commission authorized to investigate operation of federal immigration law with reference to its effect upon industries and agriculture of the State; wages for certain public employees increased; women's ten-hour law extended to restaurant workers and strengthened in other details; employers' liability law relating to railroad employees reenacted and amended; workmen's compensation law amended; commission for investigating insurance rates, including those for workmen's compensation authorized; law relating to group insurance for employees of corporations enacted.

**United States.** Railroad Labor Board abolished and act of 1913 for mediation and arbitration in railroad labor disputes repealed; new act establishes machinery for settlement of such disputes; adjustment boards must be established by joint action of carriers and their employees, to consist of equal numbers of representatives designated by collective action of each of the disputants without coercion by the other; these boards deal only with disputes arising out of interpretation of agreements concerning pay, rules, and working conditions and grievances under such agreements; decisions are by majority vote and binding upon disputants; a board of mediation is provided consisting of five, instead of nine, members appointed by the President with consent of the Senate, at a salary of \$12,000 each; function of board, upon request of either disputant or upon its own motion, to mediate but not to hand down decisions, in cases which adjustment boards have failed to settle and in disputes regarding changes in rates of pay, rules or working conditions; in case its mediation is unsuccessful, board to urge and assist arbitration; in case of intended change in pay, rules or working conditions, carriers and representatives of employees must give at least 30 days notice and agree upon a place of conference; no carrier may alter conditions while conferences are in progress or services of mediation board have been requested or proffered; in case disputants agree to arbitrate, regulations are provided for forming board, whose decision by majority vote shall be binding unless declared invalid by the court; if dispute is not settled by foregoing means, the President may appoint a board to investigate and report to him within 30 days, during which time and for 30 days following the report, no change except by agreement by disputants shall be made in conditions out of which dispute arose. Federal employees' workmen's compensation and retirement acts were amended.

**LABOR LEGISLATION, AMERICAN ASSOCIATION FOR.** Founded in 1906, this membership organization of socially minded economists, lawyers, journalists, labor leaders, and employers, has worked along scientific lines, fearlessly attacking needless industrial evils from the general welfare viewpoint. It will continue its work as the American arm of the International Association for Social Progress formed by the fusion of the three international organizations for labor legislation, unemployment, and social insurance. (See SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR.)

Progress of the association is recorded in its substantial quarterly, *American Labor Legislation Review*, the December issue of which contains a convenient annual summary and index of all new labor laws enacted in the United States. One of the most important activities of the Association during 1926, in cooperation with influential labor groups and their advisers, resulted in the introduction of a Federal workmen's compensation bill to protect longshoremen. This legislation was passed by the United States Senate, June 3, 1926, and favorably reported by the House Judiciary Committee. Among other activities in the line of work-



men's compensation, were those in favor of the Fitzgerald bill for protection of private employees in the District of Columbia, which was again favorably reported by the House District Committee, and the new Missouri compensation bill which was ratified by referendum vote in November and became effective Jan. 9, 1927. The campaign in which the Association had been energetic for several years for rock-dusting coal mines to prevent great coal dust explosions resulted in encouraging increase in the number of coal companies which have voluntarily adopted rock-dusting. At the beginning of the Association's special campaign four years ago, only three mines could be discovered that had employed rock-dusting. At the close of 1926, the number of coal companies (many of them operating several mines each) which were officially on record as employing this means of preventing explosions had grown to more than 180.

Measures which the Association sponsored were adopted in several States establishing old age pensions, vocational rehabilitation, one day of rest in seven, and measures for the mitigation of unemployment. The twentieth annual meeting was in St. Louis, December 28-30, several sessions being held jointly with the American Economic and Political Science Associations. The chief subjects of discussion were international competition in labor conditions and the maintenance of protective standards, relation of welfare work in America to labor legislation, new developments in workmen's compensation and accident prevention, labor problems in the bituminous coal industry, and relation of government to private property. Among the speakers were: Leifur Magnussøn, Mary Van Kleeck, Leo Wolman, John A. Lapp, John A. Fitch, Lewis A. DeBlois, Joseph P. Chamberlain, Alroy S. Phillips, Tracy Copp, Daniel Harrington, John H. Walker, E. E. Witte, Anthony J. Chlopek, Paul U. Kellogg and Donald R. Richberg. The president in 1926 was Thomas L. Chadbourne; the secretary, John B. Andrews, with headquarters at 131 East 23rd Street, New York City. See LABOR LEGISLATION.

**LABRADOR.** A large peninsula in British North America, forming the easternmost part of the North American continent; lying between the Atlantic Ocean and Hudson Bay. It includes the northeast portion of the province of Quebec in Canada and a small strip along the northeast coast dependent upon Newfoundland. The term Labrador is also applied to the latter portion, which has an area of 120,000 square miles, with a population in 1924 of 3874.

**LABUAN,** lá'boó-án'. A small island off the north-eastern coast of Borneo, included in the settlement of Singapore after Jan. 1, 1907. Area, 30 square miles; population, in 1924, 6122, mostly Malays from Borneo. Capital, Victoria, with a population of 1500. Revenue, 1924, \$118,425; expenditure, \$134,162; trade, \$5,500,000.

**LACROSSE.** The visit of an Oxford-Cambridge lacrosse team to the United States in 1926 served to stimulate interest in this sport. The visitors met many college and club organizations during their stay but succeeded in capturing only a few of the contests played. Among the American colleges lacrosse showed a decided revival in popularity. At the second annual meeting of the United States Intercollegiate Lacrosse Association 25 institutions were repre-

sented. On this occasion the official ranking of the various teams was announced with Johns Hopkins, first, Syracuse, second, and United States Naval Academy, third. Oxford defeated Cambridge in their annual match.

**LAFAYETTE COLLEGE.** An institution for the higher education of men at Easton, Pa.; founded in 1826. For the autumn of 1926 there was an enrollment of 1074. The faculty numbered 90. The productive funds amounted to \$2,700,000, and the income for the year to \$450,000. The number of volumes in the library, was 65,000. During the year 1925-26 gifts amounting to \$245,000 were received. Easton Hall, a dormitory for freshmen, the gift of the citizens of Easton, was completed at a cost of \$185,000. President John H. MacCracken resigned on Oct. 1, 1926, and Donald Bishop Prentice, Ph.B., M.E., was appointed Acting President.

**LAMBS.** See LIVESTOCK.

**LAND RECLAMATION.** See RECLAMATION.

**LANDS, PUBLIC.** The Commissioner of the General Land Office reported that for the fiscal year ending June 30, 1926, the total area of public and Indian lands originally entered and allowed was 3,243,446 acres, not including 137,845 acres embraced in finals not heretofore counted as original disposition of land, and constituted as follows: public auction, 19,987 acres; abandoned military reservations, 3673; cash and private sales, individual claimants, and small holding claims, 9040 acres; preemption entries, 1933 acres; soldiers' additional homesteads, 1913 acres; timber and stone entries, 19,221 acres; mineral entries, 81,838 acres; coal entries, 240 acres. Of the total area originally entered and allowed during the fiscal year 1926, 2,250,485 acres were allowed under the stock raising act of Dec. 29, 1916. The area patented during the fiscal year was 4,409,181 acres, of which 3,677,462 acres were patented under the homestead laws, not including as homesteads 2167 acres patented as soldiers' additional entries.

The total cash receipts from sales, leases, and other disposition of public lands, including receipts from copies of records, sales of Government property, etc., for the year were \$10,608,056.71, and from sales of Indian lands, \$805,983.75, an aggregate of \$11,414,040.46, all of which was deposited in the Treasury.

Five per cent of the net proceeds from cash sales of public lands were paid to the public-land States within which such sales were made, and the balance of such net receipts from States included within the Reclamation Act, together with the net receipts from fees and commissions from these States, were credited to the Reclamation Fund; 90 per cent of the receipts under the mineral leasing act (exclusive of \$4,859.26 from lands within the naval petroleum reserves) were divided between the States from which the minerals (principally oil) were taken and the reclamation fund; the receipts from reclamation town sites and royalties and rentals from potash deposits were credited to the reclamation fund; the receipts from Indian lands were deposited to the credit of the various Indian tribes. All other moneys deposited in the Treasury were credited to the general fund.

The total expenditures for the conduct of the business of the General Land Office, including expenses of the district land offices for salaries and commissions of registers and incidental ex-

penses (\$371,280.35) for the fiscal year 1926 amounted to \$2,370,170.19. Disbursements from the following trust funds and reimbursable appropriations are not included in the above figures, either as receipts or expenditures: from deposits by individuals for surveying public lands, \$29,894.32; from surveying within land grants (reimbursable), \$14,109.96; from opening Indian reservations (reimbursable), \$461.62; from surveying and allotting Indian reservations (reimbursable), \$33,207.41; and from enrollment and allotment of Lac de Flambeau band of Chippewa Indians, \$2,289.50.

The sum available for inspection service during the year was \$420,000. The total amount of cash collected and turned into the Treasury as the result of the work of the field force was \$48,947.37; of this amount, \$26,190.21 was in settlement of trespass cases and \$6,001.07 was secured from timber sales; \$16,756.09 was recovered through civil and criminal action brought by the Department of Justice in cases of depredations on the public lands and violations of the public-land laws. As a result of investigations by the field employees, 120,240 acres were restored during the year to the public domain, representing fraudulent entries canceled through proceedings based upon inspectors' reports. Inspectors investigated and reported 16,489 cases, of which 4305 were adversely and 12,184 favorably reported; 401 hearings in Government contests were held. Civil suits in 113 cases were recommended to the Department of Justice for court action as the result of investigations made during the year; 86 suits were won and 15 lost. As a result of successful prosecutions during the year \$16,306.09 was recovered and 190,256.20 acres were restored to the public domain. Seventy indictments were returned for offenses under the public land laws. Of the criminal cases tried during the year, 33 resulted in convictions, under which there were 19 prison sentences and fines amounting to \$11,125 imposed. There were 19,724 cases pending investigation in the field at the close of the fiscal year 1925, and at the close of the year 1926 there were 22,002, an increase of 2278 cases.

The results obtained from the reorganization of the cadastral engineering service, which went into effect at the beginning of the fiscal year, fully met all expectations in terms of direct economy and effective service. The technical, clerical, and accounting forces were reduced during the year by 22. Public land surveys and resurveys to meet the requirements of agricultural settlement, industrial expansion, and for administrative and other purposes were executed during the year in 20 States and in the Territory of Alaska, under 270 groups, including 90 groups of resurveys in 19 States, in addition to a number of miscellaneous surveys. Original surveys under the rectangular system, together with such resurveys as could be measured on a mileage basis, but exclusive of miscellaneous surveys, aggregated 19,965 linear miles, at an average cost of \$21.49 per mile. During the year there were accepted and placed on file plats representing 1,944,232 acres of original surveys of public lands, and in addition 513,986 acres of lands resurveyed, comprising an aggregate area of 2,458,218 acres.

Nineteen thousand two hundred and eighty-five patents covering 4,409,181 acres were issued

during the year, of which 3,685,002 acres, more than 83 per cent of the total, were disposed of under the various homestead acts. Six thousand four hundred and ninety stock-raising homestead patents included 2,513,676 acres, while 6586 homestead patents of all other classes covered 1,171,326 acres. Coal, oil, gas, phosphate, and other minerals were reserved to the United States in 2,812,138 acres of the lands patented.

**LANGE-MÜLLER, PETER ERASMUS.** A distinguished Danish composer, died in Copenhagen, February 26. He was born at Frederiksberg, Dec. 1, 1850. After graduation from the Copenhagen Conservatory he won the coveted Ancker stipend, which enabled him to spend a year in further study in Vienna and Italy. He held only two official positions in Copenhagen, one as conductor of the Concert Society (1877-9), the other as conductor of the Students' Singing Society (1881-2), the rest of his time being devoted entirely to composition. His four operas maintained themselves among the most popular works in the repertory of the Scandinavian opera houses, all having had their première at Copenhagen: *Tove* (1878), *Spanske studenter* (1883), *Fru Jeanna* (1891), *Vikingeblod* (1900). Besides he wrote two symphonies, two orchestral suites, several cantatas, incidental music for many dramas, numerous choruses, a violin concerto and some chamber-music. Of his songs many attained the popularity of folksongs.

**LANGUAGE.** INTERNATIONAL. See INTERNATIONAL LANGUAGE.

**LAOS.** See FRENCH INDO-CHINA.

**LATHROP, ROSE HAWTHORNE** (Mother Mary Alphonsa). Mother Superior of the Dominican Community of the Third Order and directress of the Rosary Hill Home, an American poet and philanthropist, died in the Rosary Hill Home at Hawthorne, N. Y., July 9. She was born at Lenox, Mass., in 1853, the daughter of Nathaniel Hawthorne, and lived in England and Portugal, studying art at Dresden and in London. She married George Parsons Lathrop, the author and journalist, in 1871 and after his death in 1898 she prepared herself to join the Dominican Order, taking the veil in 1899, becoming Mother Alphonsa. In 1896 she had established in New York City, St. Rose's Free Home for Cancer, maintaining a cancer home which gradually developed, until a five-story building was erected with beds for 100 patients, becoming known as St. Rose's Free Home for Incurable Cancer. With the increased interest in this work, and the growing number of needy patients, Mother Alphonsa opened the Rosary Hill Home in Hawthorne, Westchester County, N. Y., having previously organized the Servants of Relief for Incurable Cancer. The work was widely commended and on Apr. 18, 1926, Mother Alphonsa received the gold medal of the New York Rotary Club for outstanding humanity during the previous year. In addition to many stories and sketches she wrote a volume of poems, *Along the Shore*, 1888; and in coöperation with her husband, *Memoirs of Hawthorne*, 1897.

**LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF.** A religious body commonly known as the Mormon Church, existing chiefly in the United States. It was organized Apr. 6, 1830, at Fayette, N. Y., by Joseph Smith, whom his followers credit with having discovered, through a Divine revelation, a number of plates, buried in a hill, from which by a special power re-

ceived from God, he translated the text of the Book of Mormon, the special sacred book of the Church. The Mormon articles of faith include belief in God, Jesus Christ, and the Holy Ghost, the punishment of men for their own sins, the atonement, divine authority, baptism, laying on of hands, prophecy, the Bible "as far as it is translated correctly," the common virtues, and obedience to constituted authorities. The membership of the church is chiefly in the Mountain States, owing to the early migrations of Mormons and their final settlement in Utah.

The administrative divisions of the church are known as the stake, ward, branch, and mission. A stake comprises wards and branches, and is directed by a presidency of three. A ward is frequently a part of a city, and is directed by a bishop and two counselors. The branch, similar to the ward, is directed by an elder. In 1926 the church consisted of 96 stakes, 15 wards, and 74 independent branches. The estimated membership in 1926 was 613,000. Eleven missions in America had a membership of approximately 82,000; those in Europe, 27,000, and in the Pacific Islands, 14,000 members. The chief authorities of the church were Heber J. Grant, president; Anthony W. Ivins, first counselor; Charles W. Nibley, second counselor; Rudger Clawson, president of the Quorum of the Twelve Apostles; and Reed Smoot, George Albert Smith, George F. Richards, Orson F. Whitney, David O. McKay, Joseph Fielding Smith, James E. Talmage, Stephen L. Richards, Richard R. Lyman, Melvin J. Ballard, and John A. Widtsoe, apostles. Hyrum G. Smith was presiding patriarch; Sylvester Q. Cannon, presiding bishop; David A. Smith, first counselor; and John Wells, second counselor.

The church authorities reported 2333 missionaries at work in various countries, 1016 being outside the United States. There were 1753 Sunday schools, with 231,909 pupils and 26,313 officers and teachers. The Melchizedek Priesthood, a senior order, had 69,841 members, and the Aaronic priesthood, a junior order, 68,302 members. The church maintains Brigham Young University (q.v.) at Provo, Utah, 6 colleges, 2 high schools, and 65 seminaries, small schools connected with high schools and providing special religious instruction. The auxiliary bodies include a women's relief society numbering about 61,000, which cares for the poor and sick. The two Mutual Improvement Associations, composed of young persons, had an enrollment of about 97,000. The primary Association had about 100,000 children under 14. The church holds general conferences in the first week of April and of October of each year, at Salt Lake City, Utah, at which the work of the general authorities is reviewed.

**LATTER-DAY SAINTS, REORGANIZED CHURCH OF JESUS CHRIST OF.** After the death of Joseph Smith in 1844 several factions developed among the Latter-Day Saints. In 1852, in Wisconsin, some of these scattered congregations effected a partial reorganization, which was later completed under the name of the "Reorganized Church of Jesus Christ of Latter-Day Saints," and which claims to be the true continuation of that established by Joseph Smith. In 1860 they were joined by Joseph Smith, the son of the prophet, who became presiding officer of the organization until his death in 1914, when he was succeeded by his son, Frederick M.

Smith. The Reorganized Church holds the same faith and religious practice which Smith established, but rejects as false and inconsistent with Smith's revelation the doctrine of polygamy. Its membership as reported in 1925 was 99,460, including members throughout the United States and in Canada, Great Britain, Australia, and Germany. It had 692 churches, 6405 ministers, 891 Sunday schools, and 42,091 scholars. It maintains Graceland College at Lamoni, Ia., the Institute of Arts and Sciences, at Independence, Mo., and several homes for orphans and the aged, as well as a powerful radio broadcasting station, at its headquarters in Independence, Mo. Its official periodical, the *Saints' Herald*, is issued weekly.

**LATVIA.** A Baltic state formed after the war from territories of the old Russian Empire. Capital, Riga.

**AREA AND POPULATION.** The total area is approximately 24,400 square miles, made up as follows: The former province of Courland (about 10,435 square miles; the four southern districts of the province of Livonia (about 8715 square miles); and three districts of the province of Vitelsk (5292 square miles). According to the census of 1925, the population was 1,844,805, of whom 1,779,593 were Latvian citizens and 65,212 foreigners. The birth rate during 1924 was 22.32 per thousand and the death rate 15.30 per thousand. The chief cities with their populations at the census of 1925 are: Riga, 337,700; Libau, 60,762; Dvinsk, 40,640; and Mitau, 28,321.

**EDUCATION.** According to Latvian law, every national minority has a right to its own schools, which may employ its own language in instruction, and the state contributes to such institutions in proportion to the percentage of total inhabitants. During the year 1924-25 there were 1854 elementary schools in Latvia, with 170,803 pupils and 6928 teachers, while 20,000 children between the ages of seven and 14 could not find accommodation at schools. In the 122 secondary schools there were 2321 teachers and 22,531 pupils. After the University of Dorpat became an Estonian institution, the polytechnic school at Riga became the Latvian University (1919). In 1924-25 there were 309 professors and 6052 students in the university.

**PRODUCTION.** Latvia is still predominantly an agricultural country, although in recent years there has been a decided trend toward industry. In 1924 the principal crops were: Rye, 657,533 acres, 199,370 metric tons; barley, 442,556 acres, 161,920 tons; oats, 825,941 acres, 161,919 tons; potatoes, 675,770 tons; flax, 149,495 acres. The state and private timber lands of Latvia produced in 1924 120,000,000 cubic feet of lumber and exported 43,012,370 cubic feet either as logs or sawn goods, or manufactured into furniture or building material. In 1924 the livestock census showed 340,200 horses, 905,000 cattle, 1,235,000 sheep, and 458,000 pigs. At the beginning of 1925 there were 2598 industrial enterprises in Latvia, employing 48,134 workers. The largest industry is the manufacture of matches. Latvia has no mineral resources.

**COMMERCE.** In 1925 the total value of all imports was 280,324,401 lats and of exports 170,598,010. General statistics for the year were not available but the United States Bureau of Foreign and Domestic Commerce gave out the following information concerning trade with the

United States during that year. Latvian exports to the United States during 1925 were valued at \$2,941,123 and represented an increase of \$186,653 over 1924. All of this gain is more than accounted for by goods of Latvian origin, in spite of the fact that more than half the total exports consisted of transit goods. Exports of Latvian products increased by 43 per cent (from \$873,202 in 1924 to \$1,255,985 in 1925), whereas transit shipments fell off 10 per cent (from \$1,881,268 to \$1,685,138). Furs are the item mainly responsible for this change, their total export value dropping from \$1,103,906 to \$762,823, while the local product increased in export value.

**FINANCE.** The budget bill as passed for 1926-27 called for ordinary revenues of 148,500,000 lats and an extraordinary revenue of 12,000,000 lats; ordinary expenditure of 109,134,005 lats and extraordinary expenditure of 51,352,283 lats. The budgets for 1925-26 and 1926-27 were the first to be drafted in accordance with the State budget law that went into effect July 1, 1924, and the proposed budget for 1926-27 is the first to total below the preceding year's estimates as voted by parliament, instead of greatly exceeding them as heretofore. On Dec. 31, 1925, the debt of Latvia totaled 60,213,271 lats, of which 438,094 lats represented internal loans.

**COMMUNICATIONS.** In 1924, 3937 vessels of 1,494,752 tons entered and 3900 of 1,486,523 tons cleared from the ports. The gross receipts from the Latvian railways from freight and passenger traffic during 1925 amounted to 33,773,750 lats (\$6,494,960), as compared with 32,998,000 lats in 1924. A total of 10,972,400 passengers were carried during the year and 3,174,100 tons of freight were handled, compared with 2,203,782 tons in 1924. The railways, which are state owned, comprise 2805 kilometers of track and are equipped with 342 locomotives, 642 passenger cars, and 6173 freight cars. Very little new rolling stock is in operation, and although there is critical need for new passenger coaches the government feels that it cannot grant an appropriation for this purpose. Construction was started on the new Libau-Gluba line, which is to cover 169 kilometers and permit a direct service, without change of cars, between the port of Libau and points in Russia. The plans of the ministry of Communications call for the completion of this railway in 1928, but it is feared that the appropriation will not be sufficient to accomplish this on scheduled time.

**GOVERNMENT.** Under the constitution adopted by the constituent assembly, Feb. 15, 1922, executive power is vested in a president, elected by parliament for three years; and legislative power in the Saeima, or parliament, comprising 100 members elected for three years, by universal suffrage (men and women), equal, direct, and secret ballot, on the basis of proportional representation. The ministries are those of Interior, Foreign Affairs, Finance, War, Public Works, Education, Agriculture, Justice, Communications, and State Control. President at the beginning of the year, J. Tschakate (re-elected October, 1925); Prime Minister, M. K. Ulmanis (appointed December, 1925).

**HISTORY.** At the beginning of the year relations between Latvia and Russia were severely strained because of the murder of a Soviet agent in Latvia. The Soviet government sent a sharp note to the Latvian government, and the latter

apologized and promised to prosecute two assassins who were probably bandits. Moscow seemed to think that the murder was a part of Polish machinations to disturb the friendly relations existing between the Soviet and Latvia. On April 28, the Ulmanis ministry was compelled to resign its position and was succeeded by a ministry formed under the leadership of A. Alberings of the Peasants' League, who also took the portfolio of War. The other members of the ministry were: Foreign Affairs, K. Ulmanis (former premier); Interior, Colonel Laiminch; Finance, J. Blumbergs; Communications, P. Aronietis; Agriculture, M. Gaillits; Public Instruction, E. Ziemelis; Social Welfare, M. W. Rubuls. This ministry was virtually the old ministry with a change in the premiership, and represented the bourgeois classes of the country.

**LAW, INTERNATIONAL.** See **INTERNATIONAL LAW.**

**LAWN TENNIS.** See **TENNIS.**

**LEAD.** The recoverable lead contained in ore mined in the United States in 1926 was about 672,000 short tons, as compared with an output of 684,073 tons in 1925, according to the U. S. Bureau of Mines. The output of soft lead by mines of the Mississippi Valley and a small output from the Eastern States amounted to about 305,000 tons, and that of argentiferous lead by mines of the Western States amounted to about 367,000 tons. Corresponding figures for 1925 were 320,052 tons from the Mississippi Valley and the Eastern States, and 364,021 tons from the Western States. The largest output came from the southeastern Missouri district and amounted to about 200,000 tons, as compared with 208,915 tons in 1925. The output of Utah came next and amounted to about 146,000 tons, compared with 153,335 tons in 1925. Idaho ranked third with an output of about 133,000 tons, compared with 126,521 tons in 1925.

The output of primary domestic desilverized lead was about 368,000 tons; of soft lead about 248,000 tons, and of desilverized soft lead about 56,000 tons, making a total output from domestic ores of about 672,000 tons of refined lead. Corresponding figures in 1925 were 345,429 tons of desilverized lead, 260,560 tons of soft lead, and 48,932 tons of desilverized soft lead, making a total of 654,921 tons. The output of lead smelted and refined from foreign ore and bullion was about 128,000 tons, as compared with 112,048 tons in 1925. The total lead smelted or refined in the United States in 1926 was thus about 800,000 tons, as compared with a total of 766,969 tons in 1925—a gain of about 4 per cent. The output of antimonial lead in 1926 was about 20,000 tons, as compared with 19,667 tons in 1925.

Exclusive of the stocks of lead on hand at the smelters and refineries and of the amount of lead exported with benefit of drawback, for which figures were not available, it was calculated that the amount of lead available for consumption in 1926 was about 744,000 tons, as compared with 655,655 tons in 1925.

In addition to the slightly increased production of lead in the United States in 1926, Spain, Canada, Mexico, British India and Australia all contributed to an increased world production, consumption being greater in practically all importing countries except Germany.

According to figures published by the American Metal Market, the average quoted price of

lead for prompt delivery at New York for the year was 8.45 cents a pound, as compared with an average selling price of 8.7 cents in 1925. The quotation at the beginning of the year was 9.37½ cents and in the closing days of the year it was 7.8 cents.

**LEAGUE OF NATIONS.** The Assembly of the League of Nations met in extraordinary session, March 8, for the purpose of electing Germany to membership and thereby putting into effect the Locarno treaties. On March 17, the Assembly adjourned without having voted on Germany's admission, a deadlock having developed on the question of permanent seats in the Council. Under the existing scheme of organization, there was absolutely no way of proceeding, so the Assembly and the Council adjourned to settle the crisis by study and conference. The first phase of the crisis was due directly to the candidacy of Germany. In October, 1925, the Locarno treaties were designed to end the bitter feeling of insecurity between the nations of Western and Central Europe, and to permit them to go forward with the reparation of the economic and financial destruction which came with the Great War. These agreements were far-reaching and idealistic—as Charles C. Bauer, Editor of the *Non-Partisan League of Nations News*, put it, “so much so that the phrase ‘Spirit of Locarno’ immediately became grafted on the languages of the world and the entrance of Germany into the League was intended to be the practical application of the Locarno ideals.”

It was evident as the time approached for the actual election, that the entrance of Germany would require some radical re-organization of the League. For a time it was feared that accord established between the former enemy countries would not be complete enough to stand the strain of nationalism which would be manifest in League re-organization. This danger, however, did not materialize. In spite of the postponement, the “Locarno spirit” was unimpaired on the day of adjournment. There was a closer understanding, a higher degree of cordiality among Luther, Stresemann, Chamberlain, Briand, Vandervelde, Benes and Skrzynski at the end of the crisis than at its beginning. The good accomplished at Locarno was really reinforced by the difficulties at Geneva.

The second crisis according to the Non-Partisan League of Nations Association was perhaps the most vital. It might have arisen at any other time and had little to do with Germany. It dealt with the fact that the very life of the League depends on public discussion of public questions and full opportunity for study and consideration. This is illustrated by the Rules of Procedure which intentionally make it difficult to put any items on the Order of the Day for discussion which have not been called to the attention of the Member States four months before the opening of the Assembly. These elaborate rules have been devised to prevent surprise and to decrease the chances of stampeding the Assembly. The delegates do not like to be asked to vote on questions which have not previously been submitted to their Governments for careful study.

In the past this issue has arisen a number of times in smaller matters and the Assembly has jealously sought to guard its prerogatives. This time it arose in an aggravated form. The

Member States were invited on very short notice to attend an Extraordinary Session of the Assembly and the second of the three items on the Order of the Day called for action on suggestions which would be made by the Council in regard to creating new seats on the Council. This meant that not until after delegates had reached Geneva would they know what proposals in this very important matter would be laid before them. The Dutch Government protested against this procedure at once. It was the common understanding that Germany should be given a Permanent Seat on the Council—on this there was general agreement. However, rumors were afoot that the Council would propose a much more sweeping reorganization and no one knew exactly what the terms of the proposal would be.

Details of the situation were complicated in the extreme and even after the event it was impossible to separate fact from fancy. It was generally believed that some of the Locarno group had got together in private and agreed on a programme—the simultaneous creation of Permanent Seats for Germany, Poland, Spain and Brazil—which they intended to spring suddenly on the Assembly, and, as everybody was anxious to get Germany into the League, they hoped to jam this proposal through quickly without adequate discussion. Whether this was well founded or not, it was not the substance of the proposals which mattered—they might be good or bad—the important thing was the procedure.

If it should prove possible for a group of members to get together in private and without public discussion decide on a programme and force it through the League, it would be an unqualified defeat. It was necessary to prevent such a defeat, even if the cost was to postpone the entrance of Germany.

This phase of the crisis was solved—a victory for the League principle—by the veto of Sweden. The Council could not act in the matter without unanimity. Sweden refused to vote for any enlargement of the Council beyond the granting of a permanent seat to Germany. The Swedish attitude did not seem, according to the Association, to have been a decisive stand against any re-organization of the Council, but against any such action without public discussion and time for consideration.

A third crisis was that raised by the veto of Brazil. When the matter of Germany's entrance into the League was first brought up, Germany asked for assurance that she would be recognized as one of the Great Powers and be given a Permanent Seat on the Council. She addressed a diplomatic note to the 10 governments represented on the Council—Brazil was one of them—and later announced that she had received satisfactory answers. The Swedish reply to Germany was sent to the League and was published; but the others were not. It now develops through the subsequent publication of the Brazilian reply that that government had vaguely hinted at the action which her representative actually took. Up to the last moment, everyone at Geneva thought that the Brazilian representative would withdraw his veto of Germany's admission to a Permanent Seat unless his country received one, but he did not. There was very little support for the Brazilian claim, even among the Latin American republics.

Brazil's stand was the definite cause of the deadlock.

The Assembly adjourned in the face of this deadlock. The League has learned, in its short career, that it was determined that the only proper solution of the difficulties which confronted it would be one that could voluntarily be accepted by all. The Germans were quick to realize this; several proposed "solutions" were rejected by them because they did not want to have their entrance into the League the cause of fatal offense to any of its members.

One compromise discussed was the proposal that Sweden and Czecho-Slovakia should voluntarily resign from their non-permanent Seats on the Council and so allow the immediate election of Poland and Holland. But such a solution would obviously have dodged the real issue. The important thing was to assure full and free discussion and this was accomplished by adjournment. Germany's quick understanding of the situation was one of the most encouraging phases of the whole episode.

It is evident from the proceedings that a struggle over procedure, vital to the health of the League, was fought and won. The efficacy of the Rule of Unanimity has been thoroughly established. The question of Council re-organization was definitely raised. The Council accordingly created a special commission of 15 representatives to seek a solution.

This general view of the extraordinary session of the Assembly in March was sustained by Edwin D. Mead, a veteran observer of international development and an internationalist of note. He said:

As we read the dispatches from Europe, we find that the representatives of France, Germany and Great Britain went home from Geneva, while recognizing the seriousness of the problems which had engaged them, yet all confident that those problems will be duly settled, all with their friendship for each other strengthened, and all confident that the League of Nations is the true and only efficient agency for the establishment of the peace and order of Europe and the world.

"Only those who are already prejudiced against the league," says the Paris dispatches, "seek to proclaim its failure in this crisis. There is scarcely a newspaper which does not acclaim the assembly for its wisdom." Dr. Stresemann, the German foreign minister, said, as he was leaving Geneva for Berlin, that although the events of the week made the task of the friends of the league in Germany harder, "nevertheless, the statements of M. Briand and Sir Austen Chamberlain in the assembly to-day will help greatly. We shall be particularly sustained by the assembly's applause for those orators who maintained that Germany will soon be welcomed into the league. I wish to emphasize that Germany's collaboration for a good understanding among peoples will not be changed." He expressed special gratitude for M. Briand's courtesy in receiving the German press representatives and assuring them that the closest coöperation would continue between the two nations. In London, the dispatches state, the foreign office gratefully recognizes the fact that "the Locarno agreements came through unscathed. That the league still stands as the only alternative to European wars is the consensus of Downing street. The breakdown came through the inability of a non-European power to meet the European nations in the same spirit of conciliation as resulted at least in a temporary solution of the problem."

"As far as Sir Austen Chamberlain is concerned," say the London dispatches, "his friends realize that he will return home to face the bitterest criticism over the delay in Germany's entry into the league." That criticism will be deserved. The English minister was betrayed by his manifest partisanship for France into utterances at the most critical moment which were discreditable to himself and most prejudicial to the common interest. M. Briand, from the moment he realized his initial blunder yielding for an unhappy moment to a recrudescence of the fatal "balance of power" instinct, in espousing at this time the Poland interest, showed himself the true statesman that he is. Dr.

Stresemann was his close second, with Benes, as always, the faithful lieutenant of the righteous leaders. The whole trouble, which is temporary and the occasion for no antics, is stated correctly and sufficiently in half a dozen lines of an editorial in the *Boston Herald*: "Probably if France, heading the Locarno allies, had made no move to interfere with the admission of Germany alone to the council, the meeting would have been harmonious. But when France appeared leading Poland by the hand, and claiming for her a permanent seat, opposition was instantly aroused. When Germany was invited to join the household, care should have been taken not to keep her standing at the door because of a family squabble within." The whole incident, so unnecessary and so easily avoidable, had the organization of the council been slightly different, so far from casting discredit upon the league or upon the European statesmen, was finally dealt with in a way under the circumstances greatly to their credit; and the necessary changes in the constitution of the league will be promptly undertaken and gradually effected.

**MANDATES.** The report of the Permanent Mandates Commission on its extraordinary session of February 16-March 6, held in Rome to discuss the report of the French administration of Syria during 1925 was neither a forthright condemnation of the mandate administration, such as would have pleased the Syrian nationalists and their friends, nor the indiscriminate whitewash desired by the supporters of French policy. The Commission had before it not only the report of the French administration which the Commission requested at its ordinary session last October, but also many petitions from Syrian and Lebanese groups living outside Syria. The fact that there were no petitions coming directly from Syria was due to the practice of the Commission to receive no petition from inhabitants of mandated territories unless forwarded through the mandatory power. The French Government, however, had an accredited representative to explain its policy before the Commission, but no Syrian representatives were given an official hearing.

The report of the Commission was drawn up after a thorough examination of the documents received, as well as a searching oral examination of M. de Caix, the representative of the mandatory government. Disclaiming any intention or power to deprive France of the Syrian mandate, and ending with a reminder of France's sacrifices and disinterested aims in Syria and an exhortation to all Syrians to coöperate with the mandatory government, the report of the Commission does contain certain specific criticisms of the French administration in Syria:

(1) It criticizes the French report for omitting a statement of the "immediate causes of the present risings," and of "the deeper causes of the unrest."

(2) It intimates that the approval of the League is necessary for the modifications of the boundaries provided for under the conventions between M. de Jouvenel and the Angora government.

(3) It criticizes the French administration for its frequent changes of policy in regard to the territorial organization of the area under mandate, and in the methods and personnel of the internal administration.

(4) It criticizes the complex and confused judicial system.

(5) It considers the establishment of a new Syrian currency based on the French franc very disadvantageous to the mandated territory.

(6) It places some of the responsibility for the Druse uprising upon the French administration, particularly upon General Sarraïl and Captain Carbillat. The Commission refuses to comment, however, on the methods used by the French in dealing with the insurrection.

Perhaps the most important part of the report according to the Foreign Policy Association is the emphasis placed by the Commission upon the provisional and advisory character of the

mandate system. In a declaration on behalf of the French Government, M. de Caix definitely stated that "the mandate is a provisional system designed to enable populations which, politically speaking, are still minors to educate themselves so as to arrive one day at full self-government." Examining the record of the French administration in the light of this principle, the Commission expresses the opinion that "it seems clear that the French advisers have shown a too pronounced tendency to take the place of the native authorities. In this way the mandate has appeared to the Syrians to be gradually transforming itself into a system of direct administration."

**COUNCIL OF THE LEAGUE.** The Special Commission established to study the question of reconstructing the Council of the League met May 10 in Geneva. The Commission, the representatives of 15 nations, elected Dr. Giuseppe Motta of Switzerland, President and Senor Lereon of Argentine, Vice-President. The issues immediately developed included the amendment of the League Covenant and the changing of the rule of unanimity regarding Council decisions. The following day, the German delegate reaffirmed Germany's desire to see the successful culmination of negotiations in a way that would permit Germany to enter the League; the Spanish delegate reaffirmed the desire of Spain for a permanent seat, arguing that with the entry of Germany, the agreement regarding the permanent membership being based on war-time allies ceased; and the Brazilian delegate made a long academic speech to show his country's right to a permanent seat. The first constructive plan came from Viscount Cecil, who proposed that the elected members of the Council be increased to nine for a three-year term and chosen on a basis of proportional representation.

On May 12, the Commission voted the first part of Lord Cecil's propositions. These provided that elections should take place at the beginning of the Assembly session and that newly elected members should immediately take their seats. By getting rid of the calendar year's term of office, both Brazil and Spain might lose their seats at the beginning of the September session of the League if they obstructed the will of the majority.

China officially announced that she was willing to withdraw her demand for a permanent seat on the Council conditioned upon Brazil, Spain and Poland doing likewise; the Far Eastern Republic made her withdrawal contingent upon there being no increase in the number of permanent seats except in the case of Germany. Poland likewise took a conciliatory position.

A draft report recommended that non-permanent members be increased from six to nine and that they should be elected "as soon as possible at the next Assembly." Other provisions of the report included the stipulation for the rotation of non-permanent members on the Council, with the proviso that one-third of the number should be eligible for reelection as soon as their three-year term expires; that the Assembly, by the two-thirds majority, might call for an election of all non-permanent members at any time; and that the three non-permanent seats be allocated to Latin America.

A German-Russian treaty was published in April. The exchange letters accompanying the treaty and of equal force and authority with

it, were more detailed and specific. As summarized by the Foreign Policy Association the following were the chief points:

1. The purpose of both the contracting parties is to maintain peace.
2. The German Government regards the League as "designed for peaceful and just settlement of international disputes."
3. Under Article 16 and 17 of the Covenant, "punitive undertakings against the Soviet Union could be contemplated only if the Soviet Union started an aggressive war against another State." Furthermore, the vote of Germany as a Council member would be necessary in order to declare Russia an aggressor. As to Germany's participation in any punitive measures, the German Government significantly refers to the letter addressed to it by the Allied Governments at the time of signing the Locarno treaties, interpreting Article 16 "to mean that each state member of the League is bound to cooperate loyally and effectively in support of the Covenant and in resistance to any act of aggression to an extent which is compatible with its military situation and takes its geographical position into account."
4. The negotiation of a treaty between Germany and Russia for the peaceful solution of disputes, "in which special consideration shall be given to the possibilities of arbitral processes," is envisaged.

The reply of the Russian ambassador reaffirmed the declaration of peaceful intentions and the proposal concerning an arbitration treaty, but merely took note of the observations in regard to Germany's relations with the League.

The 40th session of the Council which adjourned June 10, proved a dramatic sequel to the sessions of the Council and the Assembly in March. The Council, faced with the alternative of again failing to admit Germany in September or losing the cooperation of Spain and Brazil chose the latter. Thereupon Brazil resigned first from the Council and then from the League; and the Spanish representative made statements which foreshadowed similar action on the part of Spain. This occasion was the decision of the Council to adjourn *sine die* at the next meeting of the Council Reorganization Committee, tentatively fixed for June 28. Since this meeting of the Committee was to have discussed the question of additional permanent Council members, its indefinite postponement was regarded as a rejection of the Spanish and Brazilian demands. It had been hoped, according to the Foreign Policy Association, that the scheme of the Committee, providing for nine non-permanent Council members, three of them eligible for reelection by a two-thirds vote of the Assembly, would give satisfaction to Spain and Brazil by enabling them to be reelected more or less indefinitely; but the statement read by M. de Mello Franco, the regular Brazilian representative, revealed that his government persisted in its attitude of all or nothing. He announced the resignation of Brazil from her non-permanent seat on the Council and her impending resignation from the League unless she was given "satisfaction," in this case synonymous with a permanent Council seat. A letter from the Brazilian government to the Secretary General of the League, published the following day, repeated these announcements, and denounced the scheme of the great powers to keep all the permanent Council seats for themselves. Then after the Council had adjourned, the Brazilian government cabled notification of its withdrawal from the League, to take effect in two years.

On the last day of the Council session the Spanish representative also made a statement



which was interpreted as foreshadowing Spain's withdrawal. After announcing that his government had decided to ratify the amendment to Article 4 of the Covenant pending since the 1921 Assembly, Senor Querbole declared that his country could not accept the status of a secondary power, and that "the present situation prevents the presence of Spain at an election." This was taken to mean that Spain would not be a candidate for a non-permanent Council seat, but would demand a permanent seat. The amendment to Article 4, which had been kept ineffective by Spain's failure to ratify, enables the Assembly to make rules for the election of the non-permanent Council members by a two-thirds majority. Thus the way was opened for acceptance by the Assembly of the report of the Council Reorganization Committee.

Other items on the agenda attracted very little general notice because of the excitement caused by the controversy over permanent Council seats. In Austria, however, there was great rejoicing because the Council decided to terminate League control over the Austrian finances. The reconstruction of Austria's finances in less than four years is regarded as one of the greatest successes achieved by the League. The Council also decided to release Hungary's finances from League control, except as regards revenue services. An attempt by the French and the Czech delegates to inject politics into the question by introducing the subject of the Hungarian franc forgeries was sidetracked by referring that matter to the Financial Committee. The financial reconstruction of Hungary, under Jeremiah Smith, Jr., of Boston, as the League's commissioner, has been even more remarkably quick than Austrian reconstruction. The Bulgarian request for authorization for a loan to be used for the settlement of refugees in Bulgaria was also granted by the Council. The scheme involves supervision of the expenditure of the loan by the League of Nations.

The Commission on Reorganization of the Council reconvened in Geneva on August 30, with the Spanish delegate, Señor Palacios, irreconcilable on Spain's demand. After a heated debate the Commission finally decided to pass directly to the Council the minutes of the Commission's meeting. These show that all the States represented with the exception of Spain were against the creation of any permanent seat except the one to be granted to Germany. The plan added three semi-permanent seats, thus theoretically taking care of the demands of Spain, Poland and Brazil. Poland seemed to be satisfied, but the Spanish delegate left Geneva for Madrid on September 4, and Spain's seat at the Council was vacant, as was Brazil's. It was reported that the Spanish Cabinet meeting, September 7, agreed to Spain's resignation from the League and in a note reproaching Geneva for lack of consideration, regretted the need for such a drastic step. On September 4, the League Council formally adopted the report of the Reorganization Commission and the last barrier to Germany's admission to the League and the Council was removed.

On September 8, Germany was unanimously elected to a permanent seat in the Council and Assembly by the Seventh Assembly, 12 years to a day after the turning of the tide in the Battle of the Marne. The three-year seats provided for under the reorganization plan were allotted to

Rumania, Chile and Poland, but only the last named country was declared re-eligible under the compromise plan intended to save Spanish and Brazilian pride. Colombia, Holland and China were elected to the Council for two years and Czechoslovakia, Belgium and Salvador for one. On September 11, Spain formally withdrew.

M. Nintchitch of Yugoslavia, the President of the Seventh Assembly, formally welcomed Germany as a League member. Dr. Stresemann's first speech raised no disputed questions, but it stressed the fact that Germany "now wished to follow a path of subversion of selfish nationalism, to promote international goodwill and peace." He hailed the League as "heir to and executor of the treaties of 1919," which may be interpreted as indicating that the Reich expects to have the troublesome problems of the occupation of the Rhineland, German Kolonialpolitik and the war-guilt question eventually settled by the League.

Aristide Briand, Foreign Minister of France, fittingly welcomed Germany into the League. (See ARBITRATION, INTERNATIONAL.) There have been many eloquent and emotional speeches, the Foreign Policy Association said, delivered from the platform of the Salle de la Reformation, but those of Stresemann and Briand "carry a note of real sincerity which, with the going into effect September 14, of the Locarno treaties, must be regarded as significant in marking a lasting reconciliation between these two ancient enemies." Spain and Brazil may be missed but the final outcome in September is of far greater importance and significance toward the peaceful settlement of international difficulties.

The work of the Seventh Session was thus summarized by the Foreign Policy Association:

"1. A resolution passed September 24 calls for a world disarmament conference to be held before September, 1927, 'unless material difficulties prevent.' France, Germany and Britain earnestly pledged their support of the forthcoming conference.

2. A speedy convocation of an economic conference was urged in a resolution passed September 21.

3. Unanimous approval was given to a project to found an Armenian national home in the Republic of Erivan.

4. The slavery convention drawn up by Lord Cecil was adopted September 25 and signed at once by representatives of 20 states including Abyssinia and Portugal, the two states most affected by its terms. The convention provides for the prevention and suppression of the slave trade and complete abolition of slavery in all forms as soon as possible. Compulsory enforced labor is to be done away with and provision is made for prevention of the slave trade.

The 43rd session of the Council of the League convened in Geneva on December 6. It decided the following matters: An Economic Conference will be held May 4, 1927, at Geneva, and all non-League states, including the United States and Soviet Russia, will be invited. The Disarmament Preparatory Commission which was to meet in March, 1927, was asked "to submit proposals with regard to the moment at which it will be possible to convene a general disarmament conference." This will probably postpone the Conference until 1928 to assure adequate preparation. The convocation of an international conference on private manufacture of arms in



the fall of 1927 was asked in case the general disarmament conference does not meet before September, 1927. Non-League states will be invited including the United States. A resolution to build a giant wireless station in Geneva was approved. An international loan for the Free City of Dantzig was authorized. The report on the loan for the settlement of the Bulgarian refugees was approved.

See DISARMAMENT; GERMANY, especially section *Germany and the League*.

**LEATHER.** In 1926 the production of leather in the United States showed substantial increases over 1925 in almost all lines. The tanning industry consumed 127,000,000 hides and skins, as compared with 119,000,000 pieces in the previous year, according to the statistics of the U. S. Bureau of the Census, as summarized in the accompanying table.

	1926	1925
Cattle-hide leather . . . . .hides	22,270,000	22,817,000
Calf and kip leather . . .skins	15,745,000	13,877,000
Goat and kid leather . . .do.	49,776,000	42,486,000
Sheep and lamb leather . .do.	31,665,000	38,089,000
Other leather . . . . .pieces	7,757,000	7,513,000
Total . . .hides and skins	127,213,000	119,782,000

In 1926 more cattle and sheep were slaughtered, as inspected by the Federal authorities, than for several years previously, but there was a slight reduction in the number of calves and goats, the statistics for five years ending in 1926 being given in the accompanying table.

FEDERAL INSPECTED SLAUGHTER  
[000 omitted]

Year	Cattle	Calves	Sheep	Goats
1918 . . . . .	11,829 *	3,546	10,320	138
1919 . . . . .	10,089	3,969	12,691	87
1920 . . . . .	8,609	4,058	10,982	42
1921 . . . . .	7,608	3,808	13,005	12
1922 . . . . .	8,678	4,182	10,920	21
1923 . . . . .	9,163	4,500	11,529	27
1924 . . . . .	9,593	4,935	11,991	33
1925 . . . . .	9,853	5,352 *	12,001	39
1926 . . . . .	10,180	5,153	12,961	32

\* Peak year.

In 1926 the U. S. Bureau of Agricultural Economics reported that there were on farms 59,829,000 cattle, as compared with 72,134,000 in 1907, the peak year; 40,748,000 sheep, as compared with 63,965,000 in 1903, the peak year; 15,778,000 horses, as compared with 21,195,000 in 1915; but 5,780,000 mules, which made a record figure. In 1926 the exports were less in value than in 1925, amounting to \$49,814,000, as compared with \$52,155,000 in the earlier year. There were increases in the exports of cattle hide leather, amounting in 1926 to 22,827,000 square feet, as compared with 18,624,000 square feet in 1925. Calf and kip were 31,726,000 square feet, as compared with 29,276,000 square feet in 1925; sheep and lamb, 8,190,000, as against 6,487,000 in 1925; and goat and kid leather, 48,546,000 square feet in 1926, as compared with 45,242,000 in 1925. There was a decline in the exports of patent leather from 36,985,000 square feet in 1925 to 30,616,000 in 1926. Sole leather also declined from 19,327,000 in 1925 to 13,470,000 in 1926. The imports of leather in 1926 had a total value of \$28,662,000, as against \$22,412,000 in 1925.

The imports of hides and skins in 1926 were valued at \$96,812,000, as against \$96,764,000

in 1925. The principal items were the following: cattle hides, 3,361,000 pieces in 1926, as against 3,817,000 in 1925; calf-kip skins, 7,587,000 pieces, as against 4,853,000 in 1925; goat-kid skins, 53,498,000 pieces in 1926, as against 47,532,000 in 1925; slats, 19,504,000 in 1926, as against 20,547,000 in 1925. The total value of the exports of hides and skins from the United States was \$15,921,000 in 1926, as compared with \$20,433,000 in 1925.

According to data collected at the biennial census of manufactures by the U. S. Department of Commerce taken in 1926, the establishments classified in the "Leather and its Manufactures" group reported, according to a preliminary statement for 1926, products valued at \$1,767,540,294, a decrease of 6 per cent as compared with \$1,880,085,716 for 1923, the last preceding census year. The total for 1925 was made up as follows: Leather, tanned, curried, and finished, \$462,013,572, a decrease of 5.5 per cent as compared with 1923; boots and shoes, \$925,383,422, a decrease of 7.5 per cent; and other manufactures of leather, \$380,143,300, a decrease of 2.8 per cent. The leather group comprised the industries in which are classified establishments engaged in tanning, currying, and finishing leather and those manufacturing leather products, such as boots and shoes, gloves and mittens, belting, saddlery and harness, trunks, suitcases and bags, pocketbooks, purses, etc.

The total number of establishments so classified for 1925 was 4263, of which number 532 were engaged in the tanning, currying, and finishing of leather, and 3731 in the manufacture of leather products. The total represented a decrease of 12.4 per cent as compared with 4868 in 1923. In considering the total value of products for the group, it must be borne in mind that this total includes a considerable amount of duplication due to the fact that nearly all the tanned, curried, and finished leather is used as a material by the other industries in the group. Thus the total value of products of the group (f. o. b. factory) is considerably greater than the net value of the products in the form in which they reach the ultimate consumer.

**LEE, SIR SIDNEY.** English Shakespearean scholar and author, died at London, England, March 3. He was born in London, Dec. 5, 1859, of Jewish descent, and was educated at the City of London School, and Balliol College, Oxford, where he was Brackenbury history scholar. His passion for Shakespeare dated from his school days, where he was under the influence of the well-known Shakespearean scholar, Dr. Abbott, and, while at Oxford, he began his studies in general literature and in Shakespearean literature, which were destined to place him among the leading scholars in this field. He was the first secretary of the Oxford Browning Society, and in London became treasurer of the New Shakespeare Society. He was also president of the Elizabethan Society for 30 years. After graduating from Oxford, and serving for a while as tutor, he applied himself vigorously to Shakespearean studies. In 1883, however, Leslie Stephen selected him as assistant editor of the *Dictionary of National Biography*, and from that time he became a zealous, accurate biographer, writing with care and facility. In 1890 he became joint editor and, in the following year,

became editor of this remarkable Dictionary, serving as head of this work until it passed into the hands of the Oxford Delegacy in 1917.

Lee was professor of English language and literature at the University of London East London College from 1913-24, and dean of the Faculty of Arts of the University of London from 1918-22. In 1917 he became president of the English Association. His scholarship was recognized by many honorary degrees including that of Litt.D., Victoria University, Manchester, 1900; LL.D. Glasgow, 1907; and Litt.D. Oxford, 1907. He was knighted in 1911. He was a fellow of the British Academy and foreign member of the American Academy of Arts and Sciences; a corresponding member of the Massachusetts Historical Society; and a member of the Royal Commission on Public Records in 1910; chairman of the executive, Shakespeare's Birthplace Trust, Stratford-on-Avon in 1903; and registrar of the Royal Literary Fund in 1907. He was in active demand as a lecturer, being Clark lecturer in English literature at Trinity College, Cambridge, 1901-02; lecturer at the Lowell Institute, Boston, 1903; and lecturer for the Common University Fund at Oxford, 1909.

Lee was known in addition to his general biographical work for a notable *Life of William Shakespeare* (1898); *Life of Queen Victoria* (1902); and *Life of King Edward VII*; the last two of which were considered not only standard volumes, but valuable contributions to history, dealing with a critical time and with two interesting personages. The *Life of King Edward VII* was undertaken at King George's request and was prepared from original papers. In addition to these notable biographies Sir Sidney Lee's writings include: *Stratford-on-Avon from the Earliest Times to the Death of Shakespeare* (1885, new ed. 1906); *Lord Herbert of Cherbury's Autobiography, with a continuation of his Life* (1880, new ed. 1906); *Shakespeare First Folio Facsimile, with Introduction, and Census of Extant Copies* (1902); *Elizabethan Sonnets* (1904); *Great Englishmen of the 16th Century* (1904); *Shakespeare's Poems and Pericles* (1905); *Shakespeare and the Modern Stage* (1906); *America and Elizabethan England* (in Scribner's Magazine, 1907); *The French Renaissance in England* (1910); *Principles of Biography* (1911); *Shakespeare and the Italian Renaissance* (1915); and *Comment on Prefatory Pages of First Folio* (1923).

**LEEWARD ISLANDS.** A group of islands belonging to Great Britain in the West Indies; the most northerly group of the British Lesser Antilles, lying to the north of the Windward group and southeast of Porto Rico; comprising Antigua, Dominica, Montserrat; St. Kitts (with Nevis and Anguilla), and the British Virgin Islands. Total area, 715 square miles; population at the census of 1921, 122,242, as compared with 127,193 in 1911. The two largest islands with their area and population in 1921 are: Dominica, 305 square miles and 37,059 inhabitants; Antigua, 108 square miles, but with Barbuda and Redonda, 170 square miles, with a population of 29,767. The chief towns are: Roseau (Dominica), 7000 inhabitants; St. John (Antigua), 9262 inhabitants; and Basseterre (St. Kitts), 7736 inhabitants. The British Virgin Islands comprise all those in the group which do not belong to the United States; area, 58 square miles; population (1921), 5082. The

staple products in most of the islands are sugar and molasses. Cacao and onions are also grown. The culture of tobacco and cotton is successfully carried on in Dominica. On that island and Montserrat, lime juice and citrate of lime are important products. The accompanying table from the *Statesman's Year Book* for 1926 gives statistics of finance and commerce for 1923-24 and 1924-25:

	1923-24 £	1924-25 £
Revenue .....	267,597	240,272
Expenditure .....	276,022	268,255
Public debt .....	281,450	281,340
Imports .....	765,782	753,170
Exports .....	898,255	667,828

The islands are divided into five presidencies under a central government, at the head of which is a governor, who is also commander-in-chief, a federal executive council, and a federal legislative council. Governor, Sir Eustace Piennes.

**LEGION, AMERICAN.** See AMERICAN LEGION.

**LEGISLATION.** See AGRICULTURAL LEGISLATION; LABOR LEGISLATION; paragraphs on Legislation under the several States; and the article UNITED STATES.

**LEHIGH UNIVERSITY.** A non-sectarian institution for the higher education of men at Bethlehem, Pa.; founded in 1866. It is composed of colleges of engineering, business administration, and arts and science. The enrollment for the autumn of 1926 was 1511, and for the summer session of that year there were 336 registered. The number of members of the faculty was 136. Endowment funds for the year amounted to \$4,851,036.81, and the income for the year to \$837,810.42. There were 116,742 bound volumes and 51,468 pamphlets in the library. During the summer of 1926 a building for the College of Business Administration was erected, linking Christmas and Saucon Halls, and another building renovated for the Armory. In 1926, also, the University acquired an additional large athletic field. President, Charles Russ Richards, M.M.E., Eng.D., LL.D.

**LEISHMAN, LT.-GEN. SIR WILLIAM BOOG.** Director general of the British Army Medical Service, died in London, June 2. He was born Nov. 6, 1865, and was educated at Westminster School and Glasgow University. In 1887 he entered the medical service of the British Army, and in 1899 was appointed major in the Royal Army Medical Corps, serving in various expeditions with honor, and reaching the rank of colonel at the outset of the World War in 1914. In this conflict he was promoted to major-general in 1918, being mentioned three times in dispatches, and in 1923 was made lieutenant-general and director-general of the Army Medical Service. He served as assistant professor of pathology at the Army Medical School at Netley, 1900-03, and professor of pathology at the Royal Army Medical College, 1903-13. General Leishman also was examiner in pathology at the University of Oxford, and in tropical medicine at the University of Cambridge. He was Harben lecturer in 1910, and in the following year president of the Society of Tropical Medicine and Hygiene. He served as a member of the Yellow Fever Commission of West Africa, 1913-15, and of the Medical and Sanitary Ad-

visory Committee for Tropical Africa in the Colonial Office in 1913. Sir William was a member of the Medical Research Council, 1913-23, and chairman of the Foot and Mouth Disease Research Committee of the Ministry of Agriculture in 1924. He was also a member of the Scientific Advisory Committee of the British Empire Cancer Campaign in 1924. He was knighted in 1909 and in 1915, made C.B.; he was the recipient of various other honors until in 1924 he was created K.C.B. He was a fellow of the Royal Society, of the Royal College of Physicians in London, and of the Royal Faculty of Physicians and Surgeons at Glasgow. He was also an honorary LL.D. of the latter University and of McGill University, Montreal. In 1912 he was appointed honorary physician to the King. In recognition of his care and expert attention to the American soldiers in the World War he was given the Distinguished Service Medal by the United States. He also received many honors from foreign governments and contributed extensively to medical literature.

**LELAND STANFORD UNIVERSITY.** See STANFORD UNIVERSITY.

**LEWIS, DR. AGNES SMITH.** English Orientalist, died in England, March 27. She was born at Irvine, Ayrshire, in 1833, the daughter of John Smith, a Scottish jurist. She was educated in private schools and by tutors, later becoming proficient in modern Greek, Arabic, and Syriac. She wrote several novels and works on travel including, *Glimpses of Greek Life and Scenery* and *Through Cyprus*. In 1887 she married the Rev. Samuel Savage Lewis (1836-91), fellow of Corpus Christi College, Cambridge, and in 1892 with her twin sister, Mrs. Margaret Dunlop Gibson, discovered, in the library of the Convent of St. Catherine on Mount Sinai, a text of the Four Gospels in Syriac, which was the oldest version then known of any part of the New Testament. In 1896 she and her sisters brought back the first leaf of the Hebrew Ecclesiasticus. She received honorary degrees from the Universities of Halle, Wittenberg, St. Andrews, Heidelberg, and Dublin. She and her sister gave the site for Westminster Theological College at Cambridge in 1897. Her writings include: a biography of her husband (1892); an introduction to the edition by Bensly, Rendel Harris, and Burkitt of *The Four Gospels from the Sinaitic Palimpsest* (1894; revised by her as *The Old Syriac Gospels*, 1910); *In the Shadow of Sinai* (1898); *The Story of Ahikar*, with Conybeare and Harris (1898, 2d ed., 1913); *A Palestinian Syriac Lectionary of the Gospels*, with Mrs. Gibson (1900); and several volumes in *Studia Sinaitica and Horæ Semiticæ*, published by herself and Mrs. Gibson.

**LEWIS, JEFFREYS (MRS. HARRY MAINHALL).** American actress, died in New York, N. Y., April 28. She was born in England in 1857, and while but a girl made her first appearance at the Theatre Royal, Edinburgh, Scotland, and after appearing in London came to the United States, where she soon became leading woman at Wallack's Theatre where Lester Wallack himself was leading man. Later she joined the company of Augustin Daly, where she made a great success in certain character types of melodrama. In addition to her work with Daly's Company, she visited California each summer, acting the part of Stephanie in *Forget-Me-Not* and the Countess Zeika in *Diplomacy*. Later she starred in these

plays in the United States and Australia. Other plays in which Miss Lewis appeared were *Americans in France*, *The Promise*, *As You Like It*, *Oh, I Say!*, *The Klanman*, and *La Belle Rousse*.

**LIBERIA.** A negro republic on the west coast of Africa, reaching from the British colony of Sierra Leone on the west to the French Ivory coast on the east, with about 350 miles of coast line, and extending inland at some points to a distance of 200 miles. Area, variously estimated at 35,000 to 43,000 square miles, and population at 2,000,000 to 2,500,000, most of whom live in the interior. They belong to about 40 tribes and speak as many languages, though they fall into the six main stocks of: Mandingos, who are Mohammedans; Gola, Kpwezi, Gissi, Kru, and Greboes. The civilized inhabitants, reported at about 50,000, live along the coast, speak English, and are industrious. Capital, Monrovia, with 6000 inhabitants (including Krutown). The ports of entry are Monrovia, Robertsport, Marshall, Grand Bassa, Buchanan, River Cess, Liberian Gene; Saywolu, Greenville, Nana Cru, Grand Cess, Sasstown, Harper, Kablake, Half Cavalla, and Webó.

**PRODUCTION.** Agriculture, mining, and industrial resources are comparatively undeveloped. Although the soil is very fertile, cultivation is backward. Cacao and cotton are produced in small quantities, but the staple product is native coffee. Other products include: Piassava fibre, palm oil, palm kernels, chillies, beniseed, anatto seed, rice, beeswax, and tortoise shell. The mineral resources include: Gold, copper, tin, zinc, monazite, lead, corundum, lignite, and iron. The last named is worked by natives. Some diamonds have been found.

**COMMERCE.** The total value of exports in 1924 was \$1,303,722 and the total value of imports \$1,319,719. In 1925 the imports from the United Kingdom were valued at £156,088 and the exports to the United Kingdom £117,680. The chief exports are coffee, cacao, palm kernels, piassava fibre, palm oil, ivory, rubber, and camwood. The chief imports are rice, cottons, haberdashery, salt, provisions, arms and ammunition, hardware, tobacco, ready-made clothing, glass and earthenware, rum, gin, building timber, dried and preserved fish, and beads.

**COMMUNICATIONS.** In 1926 there were no railways of any kind, and only three stretches of motor roads, of 50, 40, and 23 miles, respectively. Ox-carts remained as the chief means of conveyance. There are two wireless stations at Monrovia and there is direct cable communication with Europe and New York.

**GOVERNMENT.** The constitution is modeled after that of the United States. Under it executive power is vested in the president, who is assisted by a council of six ministers, and legislative power in the Congress made up of the Senate and House of Representatives. Qualifications for the franchise are negro blood and ownership of land; although the natives are not disfranchised, they take no part in political affairs. The official language of the administration is English. President, in 1926, Charles D. B. King (chosen for the term 1924-28); vice president, H. Too Wesley.

**LIBRARY ASSOCIATION, AMERICAN.** An official organization functioning "to promote library service and librarianship" and to carry out the intention of its founders "by disposing the public mind to the founding and improving

of libraries" in the United States and Canada. It celebrated its fiftieth anniversary in 1926, with more than 9000 members, as compared with 103 in 1876. Its activities are carried on by its officers; by a staff of more than ninety people employed in Chicago, St. Louis, Washington, Philadelphia, and Paris; by sixty-one voluntary committees engaged in studying library problems, such as book buying, library legislation, revenues, salaries, international relations, school libraries, cataloguing civil service relations, library extension, work with the blind, work with the foreign-born, etc.; and by hundreds of individual volunteer workers. The Association activities include giving advisory assistance to all who are interested in library establishment or development by answering questions about every phase of library service; by publishing and distributing books and pamphlets on different aspects of library work; by providing buying lists for libraries, schools, and individuals; and by the distribution of leaflets, posters, broadsides, etc., about library work.

The publications of the Association include the *Booklist*, a buying guide to new books, prepared especially for small libraries and issued ten times a year; the monthly *Bulletin*, the official organ of the Association, and which includes the conference proceedings and handbook; the *A. L. A. Catalog*, a basic list of selected books to serve as an aid to libraries in book buying; and about 150 books and pamphlets on various phases of library service, designed to promote library development, the demand for which showed a marked increase during the year. Sales of publications for the first six months of 1926 showed a gain of more than 250 per cent over the same months of the previous year, and of about 500 per cent over the same period five years earlier. Notable among the books published during the year was the *Survey of Libraries in the United States*, a study in four volumes of library problems and administration; *Libraries and Adult Education* (MacMillan), a work prepared after a two-year investigation by a special commission of seven librarians of the United States and Canada; *Library Extension*, a report of the committee in charge of extension work; and the *Winnetka Graded Book List*, a study of children's reading made by the superintendent of schools of Winnetka, Ill., and a departure from the usual booklist. More than 30,000 children in 36 cities and towns helped with the preparation of this work, and the result was a list of 750 children's books graded according to the children's own judgment and annotated with the children's own comments. As a part of its work for the advancement of adult education the Association engaged more than twenty-five specialists to prepare short reading courses for men and women, and boys and girls out of school, with a view to supplementing their education by systematic reading for a definite purpose. Twenty-two of these courses were published in booklet form and more than 213,000 copies distributed.

The fiftieth anniversary conference of the A. L. A., held at Atlantic City and Philadelphia in October 1926, was attended by 2500 librarians and library trustees. As a part of its observance of "fifty years of progress" the Association had an exhibit at the Sesquicentennial Exposition at Philadelphia and was awarded a grand prize by the International Jury of Awards for the

development of interest in libraries at home and abroad.

The Association receives its income from membership dues, sale of publications, endowments, and gifts. In March, 1926, the Carnegie Corporation set aside \$4,170,000 for library purposes, of which \$1,345,000 was to be paid to the American Library Association in the form of annual grants over a period of five years. The executive headquarters of the A. L. A. are at 86 Randolph Street, Chicago, Ill., and its officers in 1926 were: president, George H. Locke, Public Library, Toronto, Canada; first vice-president, Joseph L. Wheeler, Enoch Pratt Free Library, Baltimore, Md.; second vice-president, Anne M. Mulheron, Library Association, Portland, Ore.; treasurer, Edward D. Tweedell, The John Crerar Library, Chicago; secretary, Carl H. Milam, 86 East Randolph Street, Chicago.

**LIBRARY PROGRESS.** A study of library conditions made by the library extension committee of the American Library Association in 1926 disclosed that 56 per cent of the total population of the United States and Canada enjoy library service. 7 per cent of the people without library service live in urban communities; 93 per cent live in rural or small town communities. There are 6524 public libraries in the United States and Canada; these libraries contain 68,653,275 volumes, or six-tenths of a book per capita; 237,888,282 volumes were loaned in the year, or two per capita; \$37,294,303 was expended for public libraries in the year, or about 32 cents per capita for the population.

Although there are fifty million people in the United States and Canada without access to free public libraries, there was, nevertheless, a marked advance in library service during the year 1926. The American Library Association and other national agencies, including the League of Library Commissions, the National Association of State Libraries, the American Association of Law Libraries, the Special Libraries Association, the American Library Institute, the Association of American Library Schools, the Bibliographical Society of America, the Medical Libraries Association, the Library Department of the National Education Association, and the American Merchant Marine Library Association, were engaged in nation-wide activity to speed the time when adequate public library service will be within easy reach of everyone. There was a widespread and growing need for adult education through libraries that was being met in part through the publication of a "Reading With a Purpose" series of reading courses prepared by experts under the auspices of the American Library Association. Other assistance is offered through three channels: personal guidance in reading and preparing courses for individual readers or students not enrolled in classes for correspondence study; coöperation with other adult education enterprises so that books needed might be easily available to students and teachers, and that a life-long connection might be established between the student and the library; an information service to be prepared to give to any adult inquirer specific information as to opportunities for class work and correspondence study in any subject.

In response to the urgent need for a more adequate financing of the library training agencies to the end that more well-qualified people might be prepared for library work, the

Carnegie Foundation in 1926 set aside \$1,385,000 to establish a graduate school of librarianship at the University of Chicago and \$1,440,000 to give help to other library schools. During the year new library schools were established at Columbia University and at the University of Michigan. With the former were merged the New York State Library School at Albany and the Library School of the New York Public Library. Another venture in training for librarianship was the holding of a Summer Institute for Instructors of Library Science at the University of Chicago in 1926. The Paris Library School, founded by the American Library Association in 1923 to train a personnel for positions in the libraries, supplied former students for library positions in many countries other than France.

Reference and research libraries in Europe, which were unable, because of the depreciation of foreign currency, to purchase American publications, were supplied with books and other publications from funds provided for this purpose by the Carnegie Endowment for International Peace. The \$1,000,000 fund for restoring the Library at Louvain University, Belgium, was raised and the work of restoration resumed. Library extension in China showed marked advancement. The China Foundation for Education and Culture, a body consisting of five Americans and ten Chinese members chosen to administer the returned Boxer Indemnity Fund, made a grant of \$500,000 gold for a national library in Peking. The Chinese government gave a site for the building in the Winter Palace grounds and agreed to be responsible for half of the expense of administration for ten years, and also to turn over to the new library as a nucleus the books now under the care of the Peking Library, a part of the Imperial collection in the Forbidden City.

**LIBYA.** The name of a former Italian colony on the north coast of Africa. In 1919, for administrative and military purposes it was divided into Cyrenaica and Tripolitania. See articles under these titles.

**LIFE INSURANCE.** See **INSURANCE.**

**LIGHTHOUSES.** On June 30, 1926, the U. S. Bureau of Lighthouses was maintaining a total of 18,130 aids to navigation, a net increase of 266 during the year, according to the annual report of Commissioner George R. Putnam for the fiscal year 1925-26. During the year 694 aids were discontinued, so that the net increase was more significant than would appear from the mere statement. Of the total number of aids, 6460 were lighted and 8901 were floating. There were 1239 fog signals and 10,718 unlighted aids. During the year automatic lighting apparatus was installed at 83 stations, so that on June 30 the total number of automatic lights on fixed structures in commission was 1093, not including some lights partially automatic. In addition, there were 751 buoys with automatic lights, making a total of 1844 automatic lights in the U. S. Lighthouse Service. There were also 12 fog bells operating automatically. The installation of automatic apparatus produced large economies through the reduced cost of maintenance and made possible the grouping of minor lights under the care of keepers of near-by stations or a single light attendant. Accordingly there was a net reduction during the year of 81 in the number of employees in the lighthouse service, the total number on June 30 being 5880, or slightly less than the total number in 1918, 5899, though in the interval of eight years there had been an increase of 2457, or 15 per cent, in the number of aids to navigation maintained.

The total cost of operation of the U. S. Lighthouse Service during the fiscal year was \$9,538,390, of which light stations accounted for 38.3 per cent, lightships for 13.8 per cent and tenders for 29.8 per cent. The total appropriations for the maintenance of the service for the fiscal year 1926-7 were \$10,154,481, an increase of \$346,501 over the fiscal year 1925-26. The appropriations for special works for the latter year amounted to \$834,601, including \$350,000 for vessels.

The most important lighthouse construction during the fiscal year, was the work on the light and fog-signal station at Cape Spencer, Alaska, which at the end of 1926 was practically completed, the structure having been placed in

#### SUMMARY OF AIDS TO NAVIGATION IN THE UNITED STATES

Class	Estab- lished	Discon- tinued	1926 Increase	Decrease	Total, June 30— 1925	1926
<b>Lighted aids:</b>						
Lights (other than minor) .....	154	22	132	.....	1,957	2,089
Lightship stations .....	..	..	..	.....	46	46
Gas buoys .....	36	28	8	.....	456	464
Gas buoys, with whistles and bells .....	28	8	20	.....	67	287
Minor lights .....	835	409	..	74	8,451	8,877
Float lights .....	42	19	23	.....	174	197
<b>Total lighted aids .....</b>	<b>595</b>	<b>486</b>	<b>109</b>	<b>.....</b>	<b>6,351</b>	<b>6,460</b>
<b>Fog signals:</b>						
Radio beacons .....	13	..	13	.....	13	26
Sound fog signals (air) .....	10	7	3	.....	549	552
Submarine fog signals .....	..	..	..	.....	47	47
Gas buoys, with whistles and bells .....	28	8	20	.....	267	287
Whistling buoys, unlighted .....	..	2	..	2	83	81
Bell buoys, unlighted .....	9	11	..	2	248	246
<b>Total fog signals .....</b>	<b>60</b>	<b>28</b>	<b>32</b>	<b>.....</b>	<b>1,207</b>	<b>1,239</b>
<b>Unlighted aids:</b>						
Buoys .....	263	224	39	.....	7,494	7,538
Day beacons .....	125	19	106	.....	3,079	3,185
<b>Total .....</b>	<b>388</b>	<b>243</b>	<b>145</b>	<b>.....</b>	<b>10,573</b>	<b>10,718</b>
<b>Grand total * .....</b>	<b>1,015</b>	<b>749</b>	<b>266</b>	<b>.....</b>	<b>17,864</b>	<b>18,130</b>

\* Gas buoys with whistles and bells are counted only once in the grand total.

commission in December, 1925. There was under construction a lighthouse to replace the lightship at Martin Reef in the northern part of Lake Huron, while work on the station at Milwaukee Breakwater was continued, and the new station at Point Vicente, California, was completed.

Among the most important improvements in aids to navigation, made during the fiscal year were the changing of 77 fixed lights to flashing or occulting; the changing of the illuminant of 10 lights to incandescent oil vapor, 76 lights to acetylene, and 16 to electric incandescent; the establishment of 12 radio beacons, and the installation of three gas-operated fog signals at light stations and on buoys. Improvements also were made in apparatus used in connection with electric illumination of light stations, the report reveals. These include an acetylene stand-by equipment to be turned on automatically in case of failure of the electric light. A special electric lamp for use in connection with flash panel lenses was being developed, the primary object being an increase in the duration of the flash and a better arrangement of the light source.

The installation of radio beacons for protection of navigation in fog was extended by the addition of 12 new stations, the total number of such being 28 at the end of the fiscal year. Automatic lighting apparatus was installed at 83 stations.

**AIDS TO AERIAL NAVIGATION.** The Act of May 20, 1926, charged the Department of Commerce with fostering air commerce, and accordingly, the Lighthouse Service was cooperating in the matter of marking and lighting airways. Already it had cooperated in a project at the suggestion of the Navy Department of painting the roofs of lighthouses with characteristic marks along certain defined airways over Chesapeake Bay. In Europe also the construction of new lighthouses for the guidance of aircraft was assuming important dimensions, and on Mt. Valerien just outside of Paris a new lighthouse was inaugurated late in the year which was said to throw a beam of 1,000,000,000 candle power, visible for over 60 miles.

#### LIGHTSHIPS. See LIGHTHOUSES.

**LIME.** The U. S. Bureau of Mines estimated the lime sold by producers in the United States in 1926 at 4,580,000 short tons, valued at \$40,800,000. This was approximately the same quantity, but a decrease of 4 per cent in value as compared with sales in 1925. The sales of hydrated lime, which are included in these figures, amounted to 1,570,000 tons, valued at \$14,576,000, a small increase in quantity and a decrease of 5 per cent in value. The average unit value of all lime showed a decrease from \$9.30 a ton in 1925 to \$8.91 in 1926, and that of hydrated lime a decrease from \$9.79 a ton in 1925 to \$9.28 in 1926.

Ohio, the leading State, with 1,069,000 short tons in 1926, showed a decrease of 2 per cent in total sales and 5 per cent in sales of hydrated lime which amounted to 743,000 short tons. Pennsylvania which ranked second, with a total of 828,000 short tons, showed an increase of 4 per cent in total sales. Its output of hydrated lime was 225,000 short tons. Of the 22 States in which more than 25,000 tons were sold, 12 showed increased sales, but in no State was the increase or decrease large.

According to data collected at the biennial

census of manufactures taken in 1926, the establishments in the United States engaged primarily in the production of lime reported, for 1925, a total output valued at \$50,651,748, an increase of 7.2 per cent as compared with \$47,243,756 for 1923, the last preceding census year. Of the total for 1925, \$26,310,529 was contributed by quicklime, \$15,539,371, by hydrated lime, \$4,724,653 by limestone sold as such, and \$4,077,195 by other products (including agricultural limestone, road material, lime marl, lime putty, poultry grit, plaster, insecticides, screenings, etc.).

**LIMITATION OF ARMAMENTS.** See DISARMAMENT; NAVAL PROGRESS.

**LINCOLN, ROBERT TODD.** Former United States Secretary of War and American Minister to Great Britain, died at Manchester, Vt., July 25. Robert Todd Lincoln, the eldest son and last survivor of President Abraham Lincoln's family, was born at Springfield, Ill., Aug. 1, 1843. He was educated at Phillips Exeter Academy, Illinois State University, and Harvard University from which he graduated in 1864. He entered the Harvard Law School, but left and entered the Federal Army, serving until the end of the war as a captain on General Grant's staff. In 1867 he was admitted to the Illinois Bar, and practiced in Chicago until 1881, when he became Secretary of War in President Garfield's cabinet. He was retained in this position by President Arthur after Garfield's death, and was then mentioned in 1884 as a candidate for the presidency. In 1889 he became Minister for the United States to Great Britain, serving until 1893. He was counsel for the Pullman Company and after the death of George M. Pullman became its president, serving until 1911, when he resigned and became chairman of the board. He was a director in various banks and industrial corporations.

**LINSEED OIL.** See FLAX.

**LIONS CLUBS, INTERNATIONAL ASSOCIATION OF.** An organization of business men's clubs united in one association for the accomplishment of good to the community and to the nation. In 1917 the Business Circle of Chicago issued a call to approximately 150 business organizations, inviting them to send representatives to a meeting in Chicago on June 7, 1917. At this meeting more than 20 delegates, representing 50 clubs, were present and voted to form the Association of Lions Clubs, with the understanding that each club was to retain its own name. Additional Lions Clubs have been organized by choosing one man from each business or profession in the community. The objects of the organization are to promote good government and good citizenship, and to encourage efficiency and promote high ethical standards in business and the professions. At the 1926 convention, held July 21-24 at San Francisco, 1077 clubs were reported in the Association, with a total enrollment of 48,363 members.

The officers for 1926-27 elected at this convention were: William A. Westfall, Mason City, Iowa, president; Irving L. Camp, Johnstown, Pa., Ben A. Ruffin, Richmond, Va., and Ray L. Riley, Sacramento, Calif., vice-presidents. It was decided to hold the 1927 convention at Miami, Fla. The *Lions Club Magazine* is the official organ of the Association. The international headquarters are in the McCormick Building, 332 South Michigan Avenue, Chicago.

**LITERATURE, ENGLISH AND AMERICAN.** A survey of publications in English during 1926 will show, it is believed, that, so far as this year is concerned, the genius of the Anglo-Saxon countries in the more artistic literary forms, such as poetry and the drama, was torpid. This however was not true of fiction, though that condition obtained during 1926 probably by pure chance. The distinction of the writing done and the intellectual activity displayed in other fields, such as biography, history, politics, and travel, were remarkable. It must be remembered that the classifications hereinafter made are really arbitrary, for we have sociological fiction and poetry, such as that dealing with the negro and "poor white"—very fashionable now—fictionized biography, educational travel books, dramatic and fictional history, poetic books of religion.

**FICTION.** One feels that 1926 was a notable year in fiction, though more for a highly developed activity than for any startling progress in the art. Almost all the men and women to whom one is accustomed to look for important work published during the period, and in addition there was a host of new and emerging figures who promised well for the future. These showed a grasp of technique and a depth of inspiration quite gratifying and surprising.

Perhaps H. G. Wells' *The World of William Clissold*, a huge work, caused as much discussion as any one book. It is an encyclopedic affair, rich and meaty, though it shows Wells growing even more materialistic than before. With *The Nun Also Rises*, a story of Americans against a European background, remarkably deft in both dialogue and character, Ernest Hemingway won wide acclaim. John Galsworthy pleased with the second volume of the second Forsyte trilogy, *The Silver Spoon*. Three novels used effectively Southern backgrounds: *Teetfallow*, by T. S. Stribling, about Tennesseans, *The Time of Man*, by Elizabeth Madox Roberts, about Kentucky mountain people, and *The Romantic Comedians*, by Ellen Glasgow, an ironic treatment of Virginians. C. E. Montague's *Rough Justice*, a novel of post-war disillusion, was beautifully and engagingly done. In *Galahad: Enough of His Life to Explain His Reputation*, John Erskine continues to work the mine of philosophic narrative he opened last year with *Helen of Troy*. Ford Madox Ford bought out the third volume of the troubles of Christopher Tietjens, *A Man Could Stand Up*. George Moore's *Ulick and Soracha* shows that author turning gravely to eleventh century Ireland for inspiration suitable to limited editions.

A very distinguished group of novels might be called "psychological": May Sinclair's *Far End*, proving that novelists shouldn't have secretaries; Dorothy Canfield's *Her Son's Wife*; J. D. Beresford's *Almost Pagan*; Willa Cather's *My Mortal Enemy*; Beatrice Kean Seymour's *The Last Day*; D. H. Lawrence's *The Plumed Serpent*, laid in Mexico; Zona Gale's *Preface to a Life*; Harvey O'Higgins' *Clara Barron*.

Among the novels which seem to follow the realistic tradition more or less faithfully: *Early Autumn*, by Louis Bromfield; *Pig Iron*, by Charles G. Norris; *Lord Raino*, by Arnold Bennett; *A Deputy Was King*, by G. B. Stern; *Spring Sowing*, by Liam O'Flaherty; *Harmer John*, by Hugh Walpole; *Chimes*, by Robert Herrick, about university life; *Jorgensen*, by Tristram Tupper; *Show Business*, by Thyra Sam-

ter Winalow; *One Little Man*, by Christopher Ward; *Hill-Billy*, also about Southern people, by Rose Wilder Lane; *Chevrons*, a war novel, by Leonard H. Nason; *Hot Saturday*, by Harvey Fergusson; *Labels*, by A. Hamilton Gibbs; *Tides*, by Ada and Julian Street; *Summer Storm*, by Frank Swinnerton; *Mated*, by Wallace Irwin; and *The Pool*, by Anthony Bertram.

But there was a small and bright stream of novels of fantasy. Among them were: Lord Dunsany's *The Ocharwoman's Shadow*; Sylvia Townsend Warner's *Lolly Willowes*; Elinor Wylie's *The Orphan Angel*, about Shelley, who was not drowned; Heywood Broun's *Gandle Follows His Nose*; and Ronald Fraser's *Landscapes with Figures*.

Of noteworthy historical novels there were: *Cloud Cuckoo Land*, by Naomi Mitchison, about ancient Greece; *The Fourth Queen*, by Isabel Patterson, of Elizabethan times; *The Great Valley*, by Mary Johnston; *The Black Hunter*, by James Oliver Curwood; and that remarkable hoax, *The Diary of a Young Lady of Fashion in the Year 1764-65* by Cleone Knox.

Novels which seemed to aim at "escape": W. J. Locke's *Perella*; Cyril Hume's *The Golden Dancer*; Marmaduke Pickthall's *The Valley of the Kings*; Jim Tully's *Jarnegan*; Fannie Hurst's *Mannequin and Appassionata*; Mary Butts' *Ashe of Rings*; Sinclair Lewis' *Mantrap*; and Donn Byrne's *Hangman's House*. Important adventure and mystery stories: *Odtaa*, by John Masefield; *The Incredulity of Father Brown*, by G. K. Chesterton; *The Murder of Roger Ackroyd*, by Agatha Christie; *Beau Sabreur*, by Percival Christopher Wren; and *The Viaduct Murder*, by Ronald Knox. Three satirical novels deserve mention: *Count Bruga*, by Ben Hecht; *The Sacred Giraffe*, by Salvador de Madariaga; and *Revelry*, a political novel indicating a recent President of the United States as hero, by Samuel Hopkins Adams.

Other important novels that evade classification were: Sylvia Thompson's *The Hounds of Spring*; Percy Lubbock's *The Region Cloud*; Frances Newman's *The Hard-Boiled Virgin*; Osbert Sitwell's *Before the Bombardment*; H. M. Bates' *The Two Sisters*; Stella Benson's *Good-bye, Stranger*; Edna Ferber's *Show Boat*; Nancy Hoyt's *Roundabout*; William C. Bullitt's *It Isn't Done*; Storm Jameson's *Three Kingdoms*; Joseph Hergesheimer's *Tampico*; Compton Mackenzie's *Fairy Gold*; L. Allen Harker's *Hilda Warc*; "Elizabeth's" *Introduction to Sally*; Martha Ostenso's *The Dark Dawn*; Carl Van Vechten's *Nigger Heaven*; Walter White's *Flight*, also about negroes; Carl Van Doren's *The Ninth Wave*; Charles Caldwell Dobie's *Less Than Kin*; Robert Nathan's *The Fiddler in Barly*; Floyd Dell's *An Old Man's Folly*; Kathleen Norris' *The Black Flemings*; and Sir Harry Johnston's *Relations*.

There were many important translations, of which the following may be noted: Ivan Bunin's *Mitya's Love*, by Madeline Boyd; Lion Feuchtwanger's *Power*, by Willa and Edwin Muir; Lady Murasaki's *The Sacred Tree*, volume II of *The Tale of Genji*, by Arthur Waley; Leo Tolstoy's *The Devil*, by Aylmer Maude; M. A. Aldanov's *The Ninth Hermit*, by A. E. Chamot; P. N. Krassoff's *From Double Eagle to Red Flag*; Arthur Schnitzler's *Beatrice*, by Agnes Jaques, and *None But the Brave*, by Richard L. Simon; J. Anker Larsen's *Martha*



and *Mary*; Sergeev Tzensky's *Transfiguration*, by Marie Budberg; Jacob Wassermann's *Oberlin's Three Stages*, by Allen W. Porterfield; Luciano Zuccoli's *Things Greater Than He*, by Eloise Parkhurst; Pio Baroja's *The Lord of Labraz*; and Fritz Mauthner's *Mrs. Socrates*, by Jacob W. Hartmann.

The year was marked by a number of notable volumes of short stories, such as: *Debits and Credits*, by Rudyard Kipling; *Here and Beyond*, by Edith Wharton; *Two or Three Graces*, by Aldous Huxley; *The Nest*, by Anne Douglas Sedgwick; *The Torrents of Spring*, by Ernest Hemingway; *Circe's Island*, and *The Girl and the Faun*, by Eden Philpotts; *The Leper Ship*, by Isadore Lhevinne; *The Casuarina Tree*, by W. Somerset Maugham; *Joanna Godden Married and Other Stories*, by Sheila Kaye-Smith; *The Love Nest*, by Ring W. Lardner; *All the Sad Young Men*, by F. Scott Fitzgerald; *The Whole Story*, by Elizabeth Bibesco; *The Connoisseur*, by Walter de la Mare; *Tall Tales from the Kentucky Mountains*, by Percy MacKaye; *Dreams and Delights*, by L. Adams Peck; *Iowa Interiors*, by Ruth Suckow; *Kyra Kyralina*, by Panait Istrati; *The Cabala*, by Thornton Niver Wilder; *Skaski*, by Ida Zeitlin; *Stories and Dramas*, by Leo Tolstoy, translated by Mrs. Lydia Turin; Mrs. H. M. Lucas and C. J. Hogarth; and Ferenc Molnar's *Eva and the Derelict Boat*, translated by Emil Lengyel.

**POETRY.** The poetry published during 1926 was very ordinary, viewed by and large. There were a very few distinguished volumes, and no interesting new figures appeared in the field. Humbert Wolfe's *News of the Devil*, a philosophic poem, won praise in England, though it had not been published in America at the end of the year. There were also: Edith Sitwell's *Elegy on Dead Fashion*; Amy Lowell's *East Wind*; Robert Bridges' *New Verse*; Joseph Auslander's *Cyclops' Eye*; E. E. Cummings' *Is Five*, typographically radical; Leonard Bacon's *Animula Vagula*; Archibald MacLeish's *Streets in the Moon and Nobodaddy*; Nathalia Crane's *The Singing Crow*; Vachel Lindsay's *Going to the Stars*; Muriel Stewart's *New Poems and Old*; Alfred Kreymborg's *Scarlet and Mellow*; Leonora Speyer's *Fiddler's Farewell*; J. V. A. Weaver's *More in American*; W. H. Davies' *The Song of Love*; V. Sackville-West's *The Land*; Sacheverell Sitwell's *Exalt the Eglantine*; A. P. Herbert's *Laughing Ann*; Edmund Blunden's *English Poems*; Virginia Moore's *Not Poppy*; Melville Cane's *January Garden*; *The Poems of Richard Cameron Rogers*.

Among the anthologies appeared: *The Silver Treasury of English Lyrics*, edited by T. Earle Walby; *Negro Workaday Songs*, collected by Howard W. Odum and Guy B. Johnson; and *Ballads and Songs of the Shanty-Boy*, edited by Franz Rickaby. There were three translated anthologies from the French: *A Bouquet from France*, by Wilfrid Thorley; *Casements*, by Richard Cloudesley Savage; and *Modern French Poetry*, by Joseph T. Shipley. Altogether a discouraged year.

**DRAMA.** The year 1926 was strangely barren in published plays. It is certainly not true that interest in the theatre is diminished, but the reading public's indifference to drama in book form, long a marked trait of both the English and Americans, no doubt discouraged the publishers. Most notable perhaps was Sean O'Casey's

*The Plough and the Stars*, whose performance was greeted in Dublin by riot and civil commotion. It is a sturdily realistic play of the 1916 rebellion, but almost plotless. Other important works were: Eugene O'Neill's *The Great God Brown*; John Galsworthy's *Plays*; *Sixth Series*, including *Old English*, *The Forest*, and *The Show*; George Bernard Shaw's trivialities, *Translations and Tomfooleries*; George S. Kaufman's *The Butter and Egg Man*; Maxwell Anderson and Laurence Stallings' *Three American Plays*; John Van Druten's *Young Woodley*; Philip Barry's *In a Garden*; Sidney Howard's *Ned McCobb's Daughter*; William Hurlburt's *Bride of the Lamb*; John Dos Passos' *The Garbage Man*, played under the title *The Moon is a Gong*; Clemence Dane's *Granite*; I. Zangwill's *We Moderns*; Paul Green's *Lonesome Road*, plays for the negro theatre; John Colton's unsavory *The Shanghai Gesture*; Lord Dunsany's *Alexander and Three Small Plays*; Frank Jewett Mather's *Ulysses in Ithaca*. Of translated plays there were only *Juarez* and *Maximilian*, by Franz Werfel, and Nikolai Gogol's *The Government Inspector and Other Plays*, translated by Constance Garnett. (See THEATRE.)

**ESSAYS.** Essays are usually sample sizes of writings that full grown would appear in other classifications, or else they are marked principally by gentleness and humor. The volumes of essays for 1926 are much like those for any other year in that they can be divided in this way. Of the more or less philosophical: William R. Inge's *Lay Thoughts of a Dean and England*; Floyd Dell's *Intellectual Vagabondage and Love in Greenwich Village*; H. L. Mencken's *Prejudices, Fifth Series*, and *Notes on Democracy*; Joseph Collins' *The Doctor Looks at Love and Life*; Lewis Mumford's *The Golden Day*; Elie Faure's *The Dancer Over Fire and Water*; translated by John Gould Fletcher; Irwin Edman's *Richard Kane Looks at Life*; Henshaw Ward's *Throbbing*; of the more or less literary: Sherwood Anderson's *Note-Book*; Llewelyn Powys' *The Verdict of Bridlegoose*; Robert Lynd's *The Money Bow*; John Drinkwater's *A Book for Bookmen*; Gertrude Stein's *Composition as Explanation*; Hilaire Belloc's *Short Talks with the Dead and Others*; Robert Littell's *Read America First*; Christopher Morley's *The Romany Stain*; of humor: Stephen Leacock's *Winnowed Wisdom*; Milt Gross' *Nize Baby*; David McCord's *Oddly Enough*; of nature: D. L. Murray's *Scenes and Silhouettes*; Dallas Lore Sharp's *Sanctuary! Sanctuary!*; Charles Downing Lay's *The Freedom of the City*; Walter Prichard Eaton's *A Bucolic Attitude*. Others: *The Home-Town Mind*, by Duncan Aikman; *Last Essays*, by Joseph Conrad; *Few Rayonets*, by John W. Thomason; *Things That Have Interested Me, Third Series*, by Arnold Bennett; and *Detours*, by Philip S. Marden. A collection is *Essays of 1925*, by Odell Shepard.

**CRITICISM AND THE HISTORY OF LITERATURE.** The year's work in this field was marked by the rather unusually large amount of attention paid poetry, and unusually small attention paid drama. Important books seemed to be: Of general criticism: *Romanticism*, by Lascelles Abercrombie; *Essays on Literature and Life*, by A. Clutton-Brock; *Authors Dead and Living*, by F. L. Lucas; *The Element of Irony in English Literature*, by F. McD. C. Turner; *The Great Abnormals*, by Theodore B. Hyslop;





*Courtesy, Doubleday, Page & Co*

ELLEN GLASGOW



*Courtesy, Alfred A. Knopf*

ELINOR WYLIE



*Courtesy, Bobbs-Merrill Co.*

JOHN ERSKINE



*Courtesy, Simon & Schuster, Inc.*

WILL DURANT

FOUR AUTHORS OF 1926



Emile Legouls' *History of English Literature*, translated by Helen Douglas Irvine; *Sea in Literature*, by V. F. Calverton; *Studies in Green and Gray*, by Henry Newbolt.

Of poets and poetry: Harold Nicolson's *Swinburne*; T. Earle Welby's *A Study of Swinburne*; Edith Sitwell's *Poetry and Criticism*, really a criticism of critics; Harriet Monroe's *Poets and the Art*; Louis Untermeyer's *The Forms of Poetry*; H. P. Collins' *Modern Poetry*; Osbert Burdett's *William Blake*; Vernon Lee's *The Poet's Eye*; Robert Graves' *Another Future of Poetry*; Laurence Binyon's *Tradition and Reaction in Modern Poetry*; Crane Brinton's *The Political Ideas of the English Romanticists*.

Of novels and novelists: *Transition*, by Edwin Muir; *Some Great English Novels*, by Orlo Williams; *George Meredith*, by William Chislett, Jr.; *George Meredith*, by J. B. Priestley; *The Modern Novel* by Elizabeth A. Drew; *A Century of the English Novel*, by Cornelius Weygandt; *Fielding the Novelist*, by Frederic T. Blanchard; *Dostoevsky*, by André Gide; *Four Novelists of the Old Régime*, by John Garber Palache; of the drama and dramatists: *Sheridan to Robertson: A Study of the Nineteenth Century London Stage*, by Ernest Bradlee Watson; *Drama*, by Ashley Dukes; and *Rip Van Winkle Goes to the Play*, by Brander Matthews.

These must also be mentioned: H. W. Fowler's *Dictionary of Modern English Usage*; Fred Newton Scott's *The Standard of American Speech and Other Papers*; Joseph Warren Beach's *The Outlook for American Prose*; and Michael Joseph and Grant Overton's *The Commercial Side of Literature*. An entertaining collection of critical essays is *American Criticism*, 1926, edited by William A. Drake.

BIOGRAPHY AND AUTOBIOGRAPHY. As much distinguished writing was done in this field in 1926 as in any, and it is difficult to make awards of merit where the general average is so high. There is discernible a trend toward impressionism, as opposed to the sober search for and interpretation of fact, particularly in the foreign importations, such as Joseph Delteil's *Joan of Arc*. Classified by subject noteworthy books seem to be: American political figures: Carl Sandburg's *Abraham Lincoln: The Prairie Years*; W. E. Woodward's *George Washington: the Image and the Man*; Rupert Hughes' *George Washington: the Human Being and the Hero, 1732-1762*; Phillips Russell's *Benjamin Franklin: the First Civilized American*; Albert Jay Nock's *Jefferson*; Philip Guedalla's *Fathers of the Revolution*; James Kerney's *The Political Education of Woodrow Wilson*; C. Bascom Slemph's *The Mind of the President*; Don C. Seitz' *Horace Greeley*; American literary figures: Joseph Wood Krutch's *Edgar Allan Poe*; Hervey Allen's *Israfel: The Life and Times of Edgar Allan Poe*, and also *Toward the Flame*, an autobiography of war experience; Herbert S. Gorman's *A Victorian American: Henry Wadsworth Longfellow*; *Letters of Bret Harte*, edited by Geoffrey Bret Harte; *Letters of Louise Imogen Guiney*, edited by Grace Guiney; *Tar: A Midwest Childhood*, autobiography by Sherwood Anderson; other Americans: *Memoires of a Happy Life*, by William Lawrence; Walt MacDougall's *This Is the Life*; Hamlin Garland's *Trail Makers of the Middle Border*; *The Rosalie Evans Letters from Mexico*, edited by Daisy Caden Pettus; Cameron Rogers' *The*

*Magnificent Idler*; Fitzhugh Green's *Peary, the Man Who Refused to Fail*; Rollo Walter Brown's *Dean Briggs*; Leah Morton's *I Am a Woman and a Jew*; James Stevens' *Brawnymann*; Robertus Love's *The Rise and Fall of Jesse James*; Lorine Pruette's *G. Stanley Hall*; Helen Woodward's *Through Many Windows*; Jack Black's *You Can't Win*; Blaise Cendrars' *Sutter's Gold*, translated by Henry Longan Stuart.

Distinguished British political figures: Philip Guedalla's *Palmerston*; Sir Edward Clarke's *Benjamin Disraeli*; Shane Leslie's *George IV*; John Drinkwater's *Mr. Charles, King of England*; A. G. Gardiner's *Certain People of Importance*, about living personages; *The Letters of Queen Victoria, second series*, edited by George Earle Buckle; Beatrice Webb's *My Apprenticeship*; the Earl of Oxford and Asquith's *Fifty Years of British Parliament*; Ford K. Brown's *The Life of William Godwin*; British literary people: H. W. Garrod's *Keats*; Clarence Dewitt Thorpe's *The Mind of John Keats*; Hugh L'Anson Faussett's *Samuel Taylor Coleridge*; Lucy Eleanor Watson's *Coleridge at Highgate*; Jessie Conrad's *Joseph Conrad as I Knew Him*; G. Jean Aubrey's *Joseph Conrad in the Congo*; *The Letters of Sir Walter Raleigh, 1879-1922*, edited by Lady Raleigh; Stephen Gwynn's *Experiences of a Literary Man*; J. Fisher Unwin's *The Art of Publishing*; Isaac Goldberg's *Havelock Ellis: Private Correspondence and Miscellaneous Papers of Samuel Pepys, 1674-1703*, edited by J. R. Tanner; *The Days of My Life*, by Sir H. Rider Haggard; *Samuel Butler and His Family Relations*, by Mrs. R. S. Garnett; *All Summer in a Day*, by Sacheverell Sitwell; other Britishers: *Darwin*, by Gamaliel Bradford; *Melodies and Memories*, by Nellie Melba; *Ruby Robert, alias Bob Fitzsimmons*, by Robert H. Davis; *The Esquise Perdita*, by E. Barrington; *Lamfranco*, by A. J. MacDonald; Europeans: Ernest Boyd's *Guy de Maupassant*; Robert Harborough Shepard's *The Life, Work, and Evil Fate of Guy de Maupassant*; Emil Ludwig's *Kaiser Wilhelm II*, translated by Ethel Colburn Mayne; Wilhelm II's *My Early Life*; Mary Duclaux' *The Life of Racine*; Margherita G. Sarfati's *The Life of Benito Mussolini*; Guy de Portales' *Franz Liszt*; Dostoevsky as *Portrayed by His Wife*, translated by S. S. Kotliansky; *Memoirs of Halide Edib*; *Correspondence of Descartes and Constantine Huygens*, edited by Leon Roth; Paul Bekker's *Beethoven*, translated by M. M. Bozeman; and Egon Wellesz' *Arnold Schönberg*, translated by W. H. Kerridge.

THE FINE ARTS. Among the noteworthy books on the Fine Arts during 1926, painting was considered in: A. P. Laurie's *The Painter's Methods and Materials*; Roger Fry's *Transformations*; Albert C. Barnes' *The Art in Painting*; Frank Rutter's *Evolution in Modern Art*; Helen Gardner's *Art Through the Ages*; George J. Cox's *Art for Amateurs and Students*; Adolfo Venturi's *A Short History of Italian Art*, translated by Edward Hutton; sculpture in: *Primitive Negro Sculpture*, by Paul Guillaume and Thomas Munro; architecture in: A. S. C. Butler's *The Substance of Architecture*; F. R. Yerbury's *Georgian Details of Domestic Architecture*; Francis Bond's *An Introduction to English Church Architecture*; George Oakley Totten's *Maya Architecture*; prints in: Frank

W. Wettenkamp's *Famous Prints*; and William M. Ivins' *Prints and Books*. Hayford Pierce and Royall Tyler's *Byzantine Art*, and Garrett Warren and Horace B. Cheney's *The Romance of Design*, should also be mentioned. See also PAINTING AND SCULPTURE.

RELIGION. The production of books on religion is very large in both England and America. What seem to be representative works for 1928 may be classified as follows: Statements of belief: *Twelve Modern Apostles and Their Creeds*, by various authors; *My Idea of God*, and *The Truth and the Life*, by Joseph Fort Newton; *The God of the Liberal Christian*, by Daniel Sumner Robinson; *My Faith in Immortality*, by William E. Barton; *Can We Then Believe?* by Charles Gore; *Where Do You Live?* by Charles Reynolds Brown; *Adventurous Religion*, by Harry Emerson Fosdick; *Religion in the Making*, by Alfred North Whitehead; *The Spirit of Worship*, by Friedrich Heiler, translated by W. Montgomery; *My Heresy*, by William Montgomery Brown. Histories of Religion: *This Believing World*, by Lewis Browne; *The First Age of Christianity*, by Ernest F. Scott; *An Outline of Christianity*, edited by A. S. Peake and R. G. Parsons; *Christian Science*, by Sir William Barrett and Rosa M. Barrett. Biographies of religious figures: *The Life of Jesus*, by J. Middleton Murry; *Jesus the Nazarene*, by Maurice Goguel, translated by Frederick Stevens; *Jesus: a Myth*, by Georg Brandes; *The Life of St. Paul*, by F. J. Foakes-Jackson; *Mohammed*, by R. F. Dibble. Concerned with the conflict between science and religion: *The Survival Value of Christianity*, by John Moffat Mecklin; *Christianity and Naturalism*, by Robert Shafer; *Evolution and Religion in Education*, by Henry Fairfield Osborn; *Landmarks in the Struggle between Science and Religion*. Of the Bible: *The Book Nobody Knows*, by Bruce Barton; and *The Psalms*, translated by J. M. Powis Smith.

SOCIOLOGY AND EDUCATION. Almost any realistic writing may be called sociology, and under this head will be found anthropology, criminology, prophecy, prejudice, and philosophy. Important books were: J. A. Hobson's *Free Thought in the Social Sciences*; H. A. Overstreet's *Influencing Human Behavior*; Frank W. Blackmar's *History of Human Society*; John H. Randall's *The Making of the Modern Mind*; *What is Civilization?* by Maurice Maeterlinck and others; four books from the absorbing "Today and To-morrow" series: *Ouroboros: the Mechanical Extension of Mankind*, by Gareth Garrett; *Lycurgus: the Future of Law*, by S. S. P. Haynes; *Pygmalion: the Doctor of the Future*, by R. M. Wilson; and *Plato's American Republic*, by Douglas Woodruff; *Regional Sociology*, by Radhamal Mukerjee; *The Conquest of New England by the Immigrant*, by Daniel Chauncey Brewer; *The Melting Pot Mistake*, by Harry Pratt Fairchild; *The Advancing South*, by Edwin Mims; *Folk Beliefs of the Southern Negro*, by Newbell Niles Puckett; *Historical Materialism*, by Nikolai Bukharin; *The South Africans*, by Sarah Gertrude Millin; *Crime and Custom in Savage Society*, by Bronislaw Malinowski; *Woman's Dilemma*, by Alice Beal Parsons; *Criminology and Penology*, by John Lewis Gillen; *Working Days: the Personal Records of Sixteen Working Men and Women*, edited by Margaret A. Pollock; *A Million and One Nights*,

about the movies, by Terry Ramsaye; and *The Country Newspaper*, by Malcolm M. Willey.

Bertrand Russell's *Education and the Good Life*; Ira Woods Howerth's *The Theory of Education*, and M. J. Walsh's *Teaching as a Profession*, were among the prominent general books on education. Historical and descriptive books were: *Roman Education from Cicero to Quintilian*, by Aubrey Gwynn, and *Education in Soviet Russia*, by Scott Nearing. About the college: J. E. Kirkpatrick's *The American College and Its Rulers*; Percy Marks' *Which Way Parnassus?* Charles F. Thwing's *The College President*; Everett Dean Martin's *The Meaning of a Liberal Education*. Concerning the education of adults: *The Meaning of Adult Education*, by Eduard C. Lindeman; *The Threat of Leisure*, by George Barton Cutten; *Spiritual Values in Adult Education*, by Basil A. Yeaxlee; *Integrity in Education*, by George Norlin. About the high school: *The Practice of Teaching in the Secondary School*, by Henry C. Morrison.

POLITICS AND ECONOMICS. Writers on politics during 1928 were concerned with the threatened breakdown of democracy, the problem of preserving peace, and the difficulties of national administration. *Man and the State*, by William Ernest Hocking; *The Modern State*, by R. M. Mclver; *The Art of Being Ruled*, by Wyndham Lewis; *Essays on Nationalism*, by Carlton J. H. Hayes; *The Democratic Way of Life*, by Thomas Vernor Smith; *Eugenics and Politics*, by F. C. S. Schiller; and *The Survival of the Democratic Principle*, by Perry Belmont, considered the principles underlying modern government. These books had to do with the United States particularly: *The New Democracy: Presidential Messages, Addresses, and Other Papers, 1913-1917*, by Woodrow Wilson, edited by Ray Stannard Baker and William E. Dodd; *The Usages of the American Constitution*, by Herbert W. Horwill; *The Genesis of the Constitution of the United States of America*, by Breckenridge Long; *Law Reform*, by Henry W. Taft; *Midax; or the United States and the Future*, by C. H. Bretherton; *The Conquest of the Philippines by the United States, 1898-1925*, by Moorfield Storey and Marcial P. Lichauco; *The United States and Mexico*, by J. Fred Rippy. Dealing with the governments of particular nations: *Italy*, by Count Antonio Cippico; *Italy and Fascismo*, by Luigi Sturzo; *The Fascist Experiment*, by Luigi Villari; *The Changing East*, by J. A. Spender; *The Blight of Asia*, by George Horton; *Contemporary Political Thought in England*, by Lewis Rockow; *Post-War Britain*, by André Siegfried, translated by H. H. Hemming; *Whither Russia?* by Leon Trotsky. These were concerned with international relations and the preservation of peace: *International Anarchy*, by G. Lowes Dickinson; *Pan-Europe*, by Richard N. Coudenhove-Kalergi; *The Origin of the Next War*, by John Bakeless; *Man Is War*, by John Carter; *Disarmament*, by P. J. Noel-Baker; *The World Court*, by Antonio S. Bustamante, translated by Elizabeth F. Read; *International Relations as Viewed from Geneva*, by William E. Rappard; *The Causes of Peace and War*, by C. T. Wrench; and *The Road to Peace*, by Herman Bernstein.

A large number of the books in the field of economics were concerned with the reform of industry. Probably most important were: To-

*day and To-morrow*, by Henry Ford in collaboration with Samuel Crowther; *Incentives in the New Industrial Order*, by J. A. Hobson; *The New Leadership in Industry*, by Sam A. Lewishohn; *The Secret of High Wages*, by Bertram Austin and W. F. Lloyd; *The Social Control of Business*, by John Maurice Clark; *An End to Poverty*, by Fritz Werfels, translated by Eden and Cedar Paul; *Wages and the State*, by E. M. Burns; *The Coöperative Republic*, by Ernest Poisson, translated by W. P. Watkins; *The Ethics of Business*, by Edgar L. Heermance; *The Theory of International Prices*, by James W. Angell; *The Taxation of Inheritance*, by William J. Schultz; *Pegasus; or Problems of Transportation*, by Col. J. F. C. Fuller; *Artifax; or the Future of Craftsmanship*, by John Gloag; *The Rise of Modern Industry*, by J. L. and Barbara Hammond; *The War Period in American Finance, 1908-1925*, by Alexander D. Noyes; *The Coal Miner's Struggle for Industrial Status*, by Arthur E. Sufferin; and *The Scourge of Europe*, about war debts, by L. V. Birck.

**HISTORY.** The year's historical publications were unusually interesting. Charles Francis Atkinson's translation of Oswald Spengler's *The Decline of the West* made this extraordinary work available to English and American readers. These books about the World War were of great interest: *The Intimate Papers of Colonel House*, edited by Charles Seymour; two volumes of *The Memoirs of Raymond Poincaré*, translated by Sir George Arthur; Harry Elmer Barnes' "revisionist" *The Genesis of the World War*; Sir William Robertson's *Soldiers and Statesmen, 1914-1918*. There was a sudden fashion for American history by decades: *The Mauve Decade*, by Thomas Beer, about the '90's; *Our Times: The Turn of the Century*, by Mark Sullivan; *The Dreadful Decade, 1869-1879*, by Don C. Seitz. Other important American history: Ellis Paxton Oberholtzer's third volume of *The History of the United States since the Civil War*; James Truslow Adams' *New England in the Republic, 1775-1850*; Charles F. Horne's *The Story of Our American People*, sponsored by the American Legion, and similar patriotic organizations; five volumes of the pictorial history, *The Pageant of America*, edited by Ralph Henry Gabriel. Other important history: volume IV of the *Cambridge Ancient History*, edited by J. B. Bury, S. A. Cook, and F. E. Adcock; volume V of the *Cambridge Medieval History*, edited by J. R. Tanner, C. W. Previté-Orton, and Z. N. Brooke; Percy Ashley's *Europe from Waterloo to Sarajevo*; the second series of *The Fugger News-Letters*, edited by Victor von Klarwill and translated by L. S. R. Byrne; Jacques Bainville's *History of France*, translated by Alice and Christian Gauss; Hilaire Belloc's *Napoleon's Campaign of 1812*; G. Lenotre's *Paris in the Revolution*; George Macaulay Trevelyan's *History of England*; Stephen Hemmley Longrigg's *Four Centuries of Modern Iraq*; Roy Nash's *The Conquest of Brazil*; N. Iorga's *A History of Rumania*, translated by Joseph McCabe; Bernard Pares' *A History of Russia*; W. A. R. Wood's *A History of Siam*; Herbert H. Gowen and Josef Washington Hall's *An Outline History of China*; M. Rostovtzeff's *The Social and Economic History of the Roman Empire*; Sir Valentine Chirol's *India*; Howard Swiggett's *The Other Side of the Medal*, also about India; Allen John-

son's *The Historian and Historical Evidence*; and Joseph McCabe's *1825-1925, A Century of Stupendous Progress*.

**SCIENCE.** Important books of popular science were somewhat fewer in 1926, but they reflected the interest in evolution and heredity, and were as usual predominantly about biology. *Microbe Hunters*, by Paul de Kruif, scored a success, quite deservedly. It dealt with prominent figures in biological research. Others were: *The Nature of the World and of Man*, by sixteen members of the University of Chicago Faculty; *The Pedigree of the Human Race*, by Harris Hawthorne Wilder; *Evolution and Creation*, by Sir Oliver Lodge; *The Collective Spirit: An Idealistic Theory of Evolution*, by Viggo Carling, translated by W. Worster; *Temperament and Race*, by S. D. Porteous and Marjorie E. Babcock; *The Natural Increase of Mankind*, by J. Shirley Sweeney; *Love-life in Nature*, by Wilhelm Bolsche; *Sex in Man and Animals*, by John R. Baker; *The Evolution of Anatomy*, by Charles Singer; *The Theory of the Gene*, by Thomas Hunt Morgan; *Reptiles and Amphibians*, by Thomas Barbour; *Alcohol and Longevity*, by Raymond Pearl; *Ice Ages Recent and Ancient*, by A. P. Coleman; *Fundamental Concepts of Physics*, by Paul R. Heyl; *Beyond the Milky Way*, by George Ellery Hale; *Rain-making and Other Weather Vagaries*, by W. J. Humphreys; volume 2 of *Popular Research Narratives*; and *Aspects of Science*, second series, by J. W. N. Sullivan.

**TRAVEL AND THE OUT-OF-DOORS.** The titles in this field are many and fascinating. Describing trips around the world: Aldous Huxley's *Jesting Pilate*; Vicente Blasco Ibañez's *A Novelist's Tour of the World*; and Stanton Hope's *Around the World—for Fun*. About Europe: Ford Madox Ford's *A Mirror to France*; Homer Croy's *They Had to See Paris*; Waldo Frank's *Virgin Spain*; Mildred Stapley Byne's *Forgotten Shrines of Spain*; René Jutta's *Concerning Corsica*; Henry C. Shelley's *Majorca*; A. MacCallum Scott's *Beyond the Baltic*; Maurice Hindus' *Broken Earth*, about Soviet Russia; James Bone's *The Perambulator in Edinburgh*; Padraic Colum's *The Road Round Ireland*. Journeys in Africa: *An American Among the Riffs*, by Vincent Sheehan; *People of the Veil, the Tuareg*, by F. Rennell Rodd; *Through Liberia*, by Lady Dorothy Mills; *By the City of the Long Sand*, by Alice Tisdale Hobart. Life in and about Asia: *Leaves from a Viceroy's Notebook and Other Papers*, by Lord Curzon of Kedleston; *The City of the Sacred Well*, by T. A. Willard; *My Crowded Solitude*, by Jack MacLaren; *Northern Lights and Southern Shade*, by Douglas Goldring; *In Unknown Arabia*, by Major R. E. Cheesman; *East of the Sun and West of the Moon*, by Theodore and Kermit Roosevelt; *We Tibetans*, by Rin-Chen Lha-Mo; *On the Mandarin Road*, by Roland Dorgeles; *In Unknown New Guinea*, by W. J. V. Saville; *The Heart of Black Papua*, by Merlin Moore Taylor; *The Orient I Found*, by Thomas J. McMahon. Of the Americas: J. St. Loe Strachey's *American Soundings*; Mrs. William T. Sedgwick's *Acoma, the Sky City*; W. S. Barclay's *The Land of Magellan*.

Books of out-of-door adventure and sport include: *The Arcturus Adventure*, by William Beebe; *The Epic of Mount Everest*, by Sir Francis Younghusband; *The Glittering Mountains*

of Canada, by J. Monroe Thorington; *The Mountains of Youth*, by Arnold Lunn; *Adventures in Green Places*, by Herbert Ravenel Sass; *The First World Flight*, by Lowell Thomas; *The Whalers of Akutan*, by Knut B. Birkeland; *Pursuing the Whale*, by John A. Cook; *The Adventurous Bowmen*, by Saxton Pope; and *The Game's Afoot: An Anthology of Sports, Games, and the Open Air*, edited by Bernard Darwin.

**LITHIUM.** See CHEMISTRY, INDUSTRIAL.

**LITHUANIA.** One of the new states formed out of the territory of the Russian Empire after the War. Capital, Kovno, although the Lithuanians claim Vilna as the capital of their country.

**AREA AND POPULATION.** The eastern boundary of the country was defined in a treaty with Russia, July 12, 1920; on the north the boundaries nearly coincide with the former boundary between Courland and Kovno; on the south they are still undetermined. The area, based on 1914 figures, is 59,633 square miles; population, Jan. 1, 1924, 2,175,121. On Feb. 16, 1923, the Council of Ambassadors transferred the Memel district with a population of 170,000 to Lithuania. Just a month later they gave Vilna to Poland. Lithuania, however, continued to claim this district and to consider Vilna the Lithuanian capital. Important cities are: Kovno, 92,446; Grodno, 61,600; Memel, 35,715; Suvalki, 31,600; and Shavli, 21,387.

**EDUCATION.** The latest figures for education show 2020 primary schools with 117,564 pupils and 93 secondary schools with 17,149 pupils. The University of Kovno was opened on Feb. 16, 1922, with 25 professors and 800 students.

**PRODUCTION.** Lithuania is preponderantly an agricultural country and the two principal products are farm produce and timber. Production in Lithuania in 1924 was as follows, in cwts.: Rye, 9,294,300; wheat, 1,806,400; barley, 4,057,200; oats, 5,395,000; potatoes, 33,163,000; peas, 1,356,800; and flax-seed, 676,500. In 1924 the country possessed 482,000 horses, 1,252,000 cattle, 1,399,000 sheep, and 1,564,000 pigs. Lithuania raises horses of a very fine grade. Poultry farming and bee keeping have become important occupations in recent years.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, the outstanding feature in the foreign trade of Lithuania for the year 1925 was the reversal of its trade balance by over \$7,000,000. Exports during the year declined to \$22,280,000 from \$26,658,360 in 1924, while imports rose to \$23,423,000 from \$20,653,380; the 1924 favorable balance of \$6,004,980 was thus changed in 1925 to an unfavorable one of \$1,140,000. This adverse result was caused by the poor harvest of 1924 which entailed a large decrease in exports of live hogs, grains, eggs, and flax, and a corresponding increase in imports of similar foodstuffs. By a new import tariff which became effective early in January, 1926, the government hoped to restrict imports of certain articles and thereby improve the general foreign trade situation. The better crops of 1925 also gave promise of enlarged exports in 1926, so that a recovery to normal was anticipated for 1926.

**FINANCE.** The state budget for 1926, as passed by the parliament, represented a reduction of approximately 60,000,000 lits from the draft originally proposed; it was also 17,319,000 lits below the 1925 budget as originally voted by

the diet, and 25,343,000 lits below the same budget with its supplements as authorized at the close of 1925. Estimated revenues and expenditures for 1926 balance at 241,935,375 lits, and without the aid of prospective or foreign loans. In the budget as originally proposed, the extraordinary revenues included a foreign loan of 40,000,000 lits; before final passage, however, this item was eliminated, partly because of unsettled economic conditions locally and the unfavorable rates extended, but mainly to conform with the finance minister's economic programme. In effecting this economy the reductions were shared by practically all the government departments except the ministries of agriculture and foreign affairs. Compared with the 1925 budget and its supplements, appropriations for the ministry of agriculture were enlarged one-fifth; for foreign affairs, only very slightly. Appropriations for the president and cabinet were cut more than half; for parliament, for national defense, for communications, and for finance, each one-seventh; and for the remaining departments, in smaller fractions.

**RAILWAYS.** On Jan. 1, 1924, the total length of railways was 965 miles, of which 700 miles were broad gauge lines.

**GOVERNMENT.** According to the constitution adopted Aug. 1, 1922, executive power is in the president of the republic who acts through a responsible ministry; and legislative power in a diet, elected by universal, equal, direct, and secret suffrage. President at the beginning of the year, A. Stulginskis (elected Dec. 21, 1922); prime minister, Leonas Bistras, who formed a cabinet on Sept. 25, 1925.

**HISTORY.** At the beginning of the year reports were rife of rioting along the Polish-Lithuanian border, each side, in almost every case, putting the blame upon the other. The Lithuanians were still dissatisfied with the situation in Vilna. As the result of the elections held in May there was a shift in party alignment. The Christian Democratic bloc composed of the Christian Democrats, Farmers' Union, and Workers' Federation lost its former power, which passed to the hands of the Populists who had the greatest number of seats in the new parliament. The Populists formed a coalition with the Socialists and organized a government under the leadership of M. Slezevicius as prime minister. Dr. Kasmir Grinius, premier from 1920 to 1922, was elected president on June 3. As reported in *Current History* for September, the prime minister announced on June 23, that among others the following were the purposes of the cabinet: (1) to get back Vilna and to have no normal relations with Poland until it had returned Vilna and restored the Suvalki agreement; (2) to obtain commercial treaties with France, Belgium, Italy, Spain, Austria, and Hungary and to convert the provisional agreement with Great Britain into a permanent commercial treaty; (3) to undertake negotiations with Germany for arbitration; (4) to complete the negotiations with Soviet Russia begun by the former government; (5) to seek a concrete expression of unity with the Baltic states; (6) to pursue a policy of reducing expenditures by the government and of increasing working capacity; (7) to give special attention to preserving the country's greatest source of wealth, its forests.

On September 28, Prime Minister Slezevicius

signed a treaty of non-aggression with Soviet Russia at Moscow. A unique provision of this treaty was the recognition on the part of Russia of Lithuania's claim to Vilna, despite the fact that the Council of Ambassadors awarded it to Poland. It seemed as though Russia was going to back up Lithuania's claim to this city although Moscow disclaimed any such intention. The two countries agreed to respect each other's sovereignty and territorial integrity; they agreed not to make war on each other and to remain neutral in case one or the other was attacked; they were not to join coalitions hostile to one government; a conciliation commission was to settle any disputes between the two countries; and neither government was to participate in any combination for a financial or economic boycott of the other. Needless to say the treaty was looked upon with considerable suspicion throughout Poland.

On December 17, the Lithuanian government was overthrown by a military coup under the leadership of Antona Smetona, a former president of the country. The revolution was accomplished without any bloodshed, upon the arrest of President Grinius and as many of the members of the cabinet as could be caught. Smetona became the head of the state until regular constitutional elections could be held. On the next day the president was temporarily restored to power to accept the resignation of the Slezevicius ministry and the appointment of a ministry led by Augustine Valdemaras, hand picked by Smetona. The parliament met and, although the left stayed away, the rump conservative group legalized the above acts and elected Smetona president of the republic. All kinds and shades of opinions were expressed throughout the countries bordering on Lithuania as to the cause of the upheaval. Poland looked upon the move as a result of German and Russian machinations. Those countries looked upon Poland as the prime mover in the drama. The leaders of the revolt stated that it was brought about to forestall a similar uprising planned by the Communists for January, 1927. They charged that the Slezevicius ministry was cognizant of this plot but was doing nothing to prevent it. Prime Minister Valdemaras charged that Poland was fomenting this Communist plot in order to have an excuse to throw Polish troops across the border into Lithuania. As the year closed observers were still at loss to know the real reason for the manœuvre. The government immediately took steps to quash any individuals hostile to the government. Jews were arrested, Germans were ousted from official positions, Socialist and peasant political groups were dissolved, and four Communists were shot because of connection with the plot that gave Smetona the excuse for his coup d'état.

**LIVESTOCK.** The livestock and meat situation in the United States in 1926 was slightly better than in 1925. Estimate of the numbers of cattle, hogs and sheep on farms at the first of the year pointed toward a small reduction in the numbers of cattle and hogs and a small decrease in sheep as compared with the first part of 1925. On the whole the indications were toward a better stabilized industry as a result of the bitter experiences following the War when both the cattle and swine industries suffered severely as a result of overproduction and low prices. Adjustment was obviously more rapid

with swine than with cattle. Greatly increased interest was shown in the sales and exhibits of breeding animals. The International Livestock Exposition, held annually at Chicago, was one of the best from the standpoint of the numbers and the quality of the animals exhibited and the attendance exceeded all records. The grand champion steer, which this year was an 11-month-old Hereford shown by the Oklahoma Agricultural and Mechanical College, was pronounced by the Argentinean judge of the fat stock as the finest steer he had ever seen.

The average prices received for cattle, calves and hogs for slaughter were slightly higher than those of 1925, but lamb and mutton prices were not quite so good as those in the previous year, though the small reduction was largely due to an oversupply of heavy lambs in the spring. A somewhat similar situation occurred at times during the year with cattle. More high grade heavy weight beef was produced during the spring and summer than the market could absorb at good prices. The unusual production of finished cattle and sheep appeared to be the result of the favorable conditions for feeding. Corn, the basis for pork production, was unusually cheap, while pork was relatively high, making a larger number of bushels of corn equivalent in buying power to 100 pounds of pork than has occurred for many years. The pig survey conducted by the U. S. Department of Agriculture as of June 1, indicated a 36 per cent increase in the numbers of sows farrowing in the fall of 1926 as compared with 1925. This should tend to increase the numbers of swine for slaughter in the spring of 1927 and result in a reduction in the price so that a more normal corn-hog ratio will exist. A survey of the lamb crop conducted in June indicated an approximate 10 per cent increase over 1925.

As an indication of the comparative production and slaughter of meat animals during the past year, data showing the numbers and weights of animals slaughtered under Federal inspection in the first nine months of 1925 and 1926, together with the three-year average for 1923, 1924, and 1925 are presented in the table on page 442.

Conditions in the production of pork were complicated during the year by the most serious outbreak of hog cholera that has occurred in the last 12 to 15 years.

**INTERNATIONAL CONDITIONS.** Of outstanding interest in the international meat trade during the past year was the discovery of foot-and-mouth disease in hog carcasses which were imported by Great Britain from the Netherlands. This resulted in the British Ministry of Agriculture and Fisheries prohibiting the landing in Great Britain of carcasses of cattle, sheep, or hogs from continental European countries. In 1925 92,000,000 pounds of the total British importation of 139 million pounds of fresh and frozen pork were from the Netherlands which according to this order were shut off. All classes of animals in Russia showed considerable increases in numbers and the Soviet government was much interested in stimulating the livestock industry. The large increase in the pork production of Russia has been of considerable significance in European markets, especially in Great Britain and Germany. The numbers of swine in Denmark increased from estimated total numbers of 2,517,000 in 1925 to 3,034,-

**COMPARATIVE MEAT SLAUGHTERED AND STORED UNDER FEDERAL INSPECTION IN THE  
UNITED STATES FOR THE NINE-MONTH PERIODS JANUARY 1 TO SEPTEMBER 30  
IN THE DIFFERENT YEARS**

	<i>Cattle</i>	<i>Calves</i>	<i>Hogs</i>	<i>Sheep and lambs</i>
Number slaughtered:				
1926 .....	7,351,016	3,861,033	29,656,476	9,582,738
1925 .....	6,998,957	4,023,067	31,549,840	9,057,911
3-year average <sup>a</sup> .....	6,768,612	3,688,994	35,814,636	8,856,250
Total dressed weight of slaughtered animals				
1926—lbs. ....	3,811,946,194	391,556,498	5,500,976,134	371,905,506
1925—lbs. ....	3,565,235,421	394,252,417	5,378,273,250	352,098,409
3-year average <sup>a</sup> —lbs. ....	3,475,719,543	359,864,627	6,169,750,263	341,063,094
In storage on September 30:				
1926—lbs. ....	<sup>b</sup> 58,250,000		<sup>c</sup> 702,729,000	2,325,000
1925—lbs. ....	<sup>d</sup> 83,978,000		<sup>e</sup> 853,300,000	1,774,000
3-year average <sup>a</sup> —lbs. ....	<sup>f</sup> 75,852,000		<sup>g</sup> 893,912,000	2,773,000

<sup>a</sup> Average for the same period of 1923, 1924, and 1925.

<sup>b</sup> 33,760,000 lbs. fresh and 24,490,000 lbs. cured beef.

<sup>c</sup> 115,678,000 lbs. fresh, 479,327,000 lbs. cured pork, and 107,724,000 lbs. lard.

<sup>d</sup> 57,930,000 lbs. fresh and 26,048,000 lbs. of cured beef.

<sup>e</sup> 164,418,000 lbs. fresh, 557,471,000 lbs. cured pork and 131,411,000 lbs. of lard.

<sup>f</sup> 51,914,000 lbs. fresh and 23,938,000 lbs. of cured beef.

<sup>g</sup> 169,840,000 lbs. fresh, 615,171,000 lbs. of cured pork, and 108,901,000 lbs. of lard.

000 in 1926. This is the largest number of swine ever reported for Denmark.

In Canada the inspected slaughter of cattle, calves and sheep showed a small increase in the first nine months of 1926, while hogs showed a small decrease. The slaughtered and live animals exported for meat purposes from Canada were mainly to the United States and Great Britain. A serious condition developed in Belgian livestock circles which endangered the continuance of the livestock industry, especially cattle. The falling Belgian exchange brought foreign buyers from Germany and Holland who took advantage of the exchange conditions and offered prices in excess of those possible in Belgium, raising prices to a point where they were a hardship to local consumers.

A considerable decrease occurred in the amount of beef exported from New Zealand during the first part of the year 1926, although the mutton and lamb carcasses were quite uniform as compared with the last two years, and pork showed some increase. It was estimated that the numbers of cattle slaughtered in 1926 would not exceed 300,000 head as compared with 552,000 head in 1925. The establishment of lower freight rates on meats from Australia and New Zealand to the United Kingdom became effective in July, the rates on meat, cheese, wool, sheep, skins and hides were reduced by one fourth cent per pound.

**RESEARCH.** The energy requirements of animals have long been known to be in proportion to the surface areas of the animals, but considerable difficulty has been experienced in estimating surface area. During 1926 the Missouri Agricultural Experiment Station measured nearly 100 dairy cattle by means of a revolving cylinder and derived a formula for estimating surface area on the basis of live weight, which proved to be more accurate than others in common use. Interesting developments in the world meat situation during the last year were studies of the quality and palatability of meat in the United States, and the active interest of the Australian National Research Council in fostering investigations of the factors which affect the quality of frozen meat. Further studies were being undertaken coöperatively by the State agricultural experiment stations and the U. S. Department of Agriculture, dealing with various factors including feeding, breeding, management, sex and age, which affect the quality and palatability of the finished product. In connection

with this work the U. S. Department of Agriculture defined the market classes and grades of animals as they are classified in the stockyards and efforts were made to establish measures for determining the texture, flavor, juiciness and chemical constituents of raw and cooked meat. The Australian studies were concerned with the effects of various temperatures and the length of the freezing and thawing processes on the amount of drip and shrinkage in frozen beef, and brought out results of much practical importance. The U. S. Department of Agriculture also inaugurated a service whereby meat may be stamped according to the grade of the animal from which it is obtained, provided the individual packer requests it. This allows the consumer to know what kind of meat he is purchasing. An educational program was in operation for some time to teach the public the characteristics of desirable and undesirable meat.

**BIBLIOGRAPHY.** The more important livestock books recently published include: H. J. Waters and F. G. King, *Animal Husbandry* (Boston and London, 1925); F. W. Woll and G. H. True, *Productive Feeding of Farm Animals* (Philadelphia and London, 1925, 4. ed., rev.); N. Hansson, *Fütterung der Haustiere* (Dresden, 1926); A. F. Shull, *Heredity* (New York and London, 1926); J. Hammond, *Reproduction in the Rabbit* (Edinburgh, 1925); G. Schwarznecker, *Lehrbuch der Pferdezucht* (Berlin, 1926, 6. ed., rev.); W. G. L. Taylor, *The Saddle Horse* (New York, 1925); [E.] Huard du Plessis, *La Chèvre; Races, Elcavage, Exploitation* (Paris, 1926); T. F. McGrew, *The Book of Poultry* (New York, 1926); J. R. Arnold, *Hides and Skins* (Chicago and London, 1925).

**LIVONIA.** A Baltic province on the Gulf of Riga between Esthonia and Courland; formerly a province of the Russian Empire; after the war divided between the two new republics of Esthonia and Latvia. The area has been variously estimated at from 16,930 to 18,158 square miles. Population at the beginning of 1915 (estimated), 1,778,500.

**LOAN EXHIBITIONS.** See ART EXHIBITIONS.

**LOCARNO TREATIES.** See LEAGUE OF NATIONS.

**LOCOMOTIVES.** See CELEBRATIONS; RAILWAYS.

**LONDON.** MEYER. American Socialist and labor leader, died in New York City as the result of an automobile accident, June 6. He



was born in Russia, December 29, 1871, and at first worked as a printer and cigar maker, later being employed by the Education Alliance in New York. This afforded him an opportunity for advanced study and preparation for the practice of law, and he was admitted to the New York bar in 1898. He was counsel for labor unions and assisted in building up these agencies. He was connected with the cloakmakers' strike in 1910 and the garment workers' strike in 1912, aiding in their settlement. The first of these difficulties was ended by means of an agreement known as an industrial protocol. In addition to his activity in the labor movement and as a community worker on the east side of New York, London became prominent as a Socialist, being a delegate to the National Convention of the Social Democracy in 1900, and to the National Convention of the Socialist Party in 1910 and 1912.

London was chosen to represent the American Socialists at the International Socialist Congress called for 1914 in Vienna, but not held on account of the War. In 1914 he was elected to Congress as a Socialist from the twelfth New-York district, serving in the Sixty-fourth and Sixty-fifth Congresses until 1919, and was again elected to the Sixty-seventh 1921-23. He was the first Eastern Socialist, and the second in the United States, to gain this distinction. At the time he took his seat in the House, there was no other Socialist in its membership. While in Congress he opposed the entry of the United States into the great War, and made a determined fight against conscription.

**LONG ISLAND, BATTLE OF.** See CELEBRATIONS.

**LOUISIANA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,798,509. The estimated population on July 1, 1926, was 1,919,000. The capital is Baton Rouge.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926		760,000 <sup>a</sup>	
	1925	1,854,000	900,000 <sup>a</sup>	\$81,450,000
Rice	1926	495,000	16,088,000	16,892,000
	1925	430,000	14,919,000	21,908,000
Corn	1926	1,127,000	19,722,000	17,750,000
	1925	1,225,000	22,050,000	20,727,000
Potatoes	1926	36,000	2,196,000	3,733,000
	1925	30,000	1,800,000	3,780,000
Sweet potatoes	1926	79,000	7,110,000	6,399,000
	1925	72,000	5,769,000	6,624,000
Hay, tame	1926	262,000	305,000 <sup>b</sup>	4,422,000
	1925	254,000	228,000 <sup>c</sup>	4,332,000
Tobacco	1926	1,000	400,000 <sup>c</sup>	180,000
	1925	1,000	504,000 <sup>c</sup>	277,000

<sup>a</sup> bales, <sup>b</sup> tons, <sup>c</sup> pounds.

**MINERAL PRODUCTION.** Petroleum, providing the greater part of the total value of the State's annual mineral production, declined somewhat in 1925 as to the quantity produced, but attained a higher total value for the year's product. There were produced 20,013,000 barrels in 1925, and 21,124,000 barrels in 1924; having a value of \$32,800,000 (estimated) in 1925 and \$30,340,000 in 1924. Louisiana ranked second in 1924 in the production of sulphur, in which the total production of the United States was 1,409,240 in 1925. The quantity and value of the State's recent sulphur production were not separately rendered

in the reports of the Bureau of Mines. Natural gas production rose in 1924, to a total quantity of 160,945,000 M cubic feet, as against 112,031,000 M cubic feet in 1923; its value was \$7,626,000 in 1924 and \$6,022,000 in 1923. From natural gas were produced 45,800,000 gallons of gasoline in 1925, and 48,098,000 gallons in 1924; in value, \$4,035,000 (estimated) in 1925 and \$3,887,000 in 1924. Salt production 383,104 short tons in 1924 and 359,161 short tons in 1923; in value, \$2,182,797 in 1924 and \$1,808,762 in 1923. Sand and gravel were produced in important quantities. The total value of the State's mineral products was \$56,930,681 in 1924; in 1923, \$61,199,048, eliminating duplications.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Dec. 31, 1925, were \$16,905,706. Their per capita rate was \$9, as against \$7.29 in 1924 and \$3.50 in 1917. Their total included \$3,808,419, for education, apportioned among the minor civil divisions. Expenses totaling \$72,280 for public service enterprises, \$638,287 for interest on debt and \$7,916,589 for permanent improvements, added to payments for the maintenance and operation of State departments, made the total of State payments \$25,532,862. For highways was expended the sum of \$8,355,633, of which \$2,518,127 was for maintenance and \$5,837,506 for construction.

Revenue receipts of the State were \$24,160,153, or \$12.86 per capita. They exceeded by \$6,543,880 the total payments except for permanent improvements, and were \$1,372,709 less than the total with these included. Payments in excess of revenue were met from proceeds of debt obligations. Property and special taxes formed 39.7 per cent of the total revenue in 1925, as against 38.8 per cent in 1924 and 54.1 per cent in 1917. Their per capita rate was \$5.11 in 1925, \$5.10 in 1924 and \$2.33 in 1917. Earnings of the general departments and compensation for officials' services furnished 5.6 per cent of the 1925 revenue; business and non-business licenses, 35.6 per cent. State license receipts were derived chiefly from taxes on insurance companies, on licenses for trades and professions, on sales of gasoline, from the severance tax and from licensing of motor vehicles.

The net indebtedness of the State on Dec. 31, 1925, was \$14,372,188, or \$7.65 per capita, as against \$7.49 in 1924 and \$7.70 in 1917. The assessed valuation of property subject to State tax was \$1,685,501,824. The State tax levy was \$9,691,635, or \$5.16 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4868. Construction in 1926 totaled 17 miles of first track. There were abandoned in the year 25 miles of line between Neame and Camp Baker, six miles between Woodworth and Lamorie and certain terminal facilities of the Texas Pacific at New Orleans.

**EDUCATION.** It was calculated that school funds in the State would be increased to the extent of from \$1,500,000 to \$2,000,000 by the operation of the tobacco tax enacted by the Legislature. The increase in the State's school funds was expected to be about 50 per cent of the total yearly school fund revenue before the operation of the new tax.

The school population of the State in the

academic year 1925-1926 was given by the Department of Education as: white, 358,930; colored, 242,706. Total enrollment was: white, 260,584; colored, 130,878. That in elementary schools was: white, 221,725; colored, 126,993. That in high schools: white, 38,859; colored, 3885. There was expended for education in the State, \$30,774,743. Salaries of white teachers averaged, for men, \$1434 and for women, \$537; those of colored teachers, \$1004 for men and \$444 for women.

**CHARITIES AND CORRECTIONS.** A State Board of Charities and Corrections, established in 1904 and reorganized in 1921, is composed of six members, including the Governor, its ex-officio chairman, and supervises State institutions. It has no executive or administrative powers. Over private institutions it holds visitatorial power. The chief State institutions reporting at the end of 1925 were: Charity Hospital, New Orleans; Charity Hospital, Shreveport; Central Louisiana Hospital (for the insane), Pineville, 1139 patients; East Louisiana Hospital (for the insane), Jackson, about 2200 patients, including criminal insane; Louisiana State penitentiary, Baton Rouge; Louisiana training institute, Monroe, for correctional work; state colony and training school for feeble minded, Alexandria; and State schools for the blind and the deaf, and a State soldiers' home.

**LEGISLATION.** A constitutional amendment providing for revision of the criminal code of the State was passed and was presented to the electorate for ratification on November 2. In accordance with the change thus provided for, the Governor was enabled to appoint members to a Criminal Code Revision Commission, which he did, naming as its members St. Clair Adams, H. B. Warren and S. R. Thomas. It was provided that the commission should report to the Legislature of 1928. The lower house adopted a resolution to appeal to the President of France for clemency on behalf of an American named Doty, serving in the French Foreign Legion, condemned to death for desertion. A bill to forbid the teaching of the theory of man's descent by the evolutionary process from other forms of life was introduced in the lower chamber.

**POLITICAL AND OTHER EVENTS.** Edwin S. Broussard, the incumbent Senator, won the Senatorial nomination in the Democratic primaries, held September 14, defeating former Governor Jared Y. Sanders. Broussard was reelected on December 2, in the general election.

Governor Henry L. Fuqua (q.v.) dying while in office on October 11, Lieutenant-Governor Oramel H. Simpson was sworn in as Governor to succeed him. The regular biennial session of the State Legislature was held, convening May 10. The city of New Orleans at a special election in November voted the expenditure of \$7,500,000 for divers purposes, to include a \$2,000,000 municipal auditorium, a criminal court building, a parish prison and farm, garbage incinerators, and a 2000 acre addition to City Park. Operations toward giving the city highway communication to the east were carried on by the New Orleans Lake Pontchartrain Bridge Company, engaged in the construction of a \$6,000,000 highway bridge across Lake Pontchartrain. (See BRIDGES.) This company denied in December that it intended to provide a railroad way on the Pontchartrain bridge. As a result of extensive channel deepening between the city of Lake Charles,

Calcasieu Parish, near the western end of the Louisiana coast line, and the Gulf of Mexico, that city was thrown open to ocean shipping, and was formally tendered to the Nation on November 30 by Governor Simpson as a port.

**OFFICERS.** Governor, H. L. Fuqua (died October 11); Lieutenant-Governor (Governor after October 11), O. H. Simpson; Lieutenant-Governor (succeeding O. H. Simpson), Philip H. Gilbert; Secretary of State, J. J. Bailey; Treasurer, L. B. Bayard, Jr.; Auditor, Eugene T. Lyons; Attorney-General, Percy Saint; Superintendent of Education, T. H. Harris.

**JUDICIARY.** Supreme Court; Charles A. O'Neill, Chief Justice; Associate Justices: Ben C. Dawkins, Winston Overton, John St. Paul, Wynne G. Rogers, John R. Land, H. F. Brunot.

**LUMBEE.** See FORESTRY.

**LUMINESCENCE.** See ZOÖLOGY.

**LUTHERAN ANNIVERSARY.** See CELEBRATIONS.

**LUTHERANS.** A denomination made up of groups of religious bodies holding in doctrine to the unaltered Augsburg Confession and to Luther's Small Catechism. Its membership is chiefly in Germany and northern Europe and in the United States and Canada. The Church in the United States comprises several groups which, in 1926, were taking definite steps toward organic union. Of these, the United Lutheran Church in America comprised about one-third of the Lutheran membership in the United States, and some 19 independent synods and a negro mission comprised the remainder. A number of these synods were based on the languages of the countries of origin of their members. At its 1926 convention, held at Richmond, Va., the United Lutheran Church completed the organization of the American Board of Missions, to take the place of five home mission boards. The joint Ohio and Missouri synods carried on work in Mexico, the Missouri synod organized a new synodical district in Argentina, and the work among American negroes was definitely advanced. This synod also created a new board of Mexican missions and a committee on immigrant mission work in western Canada.

The United Lutheran Church, at the Richmond Convention, received the Lutheran Church in the Andhra Country of India as an associate synod. Its mission in the Shantung Province became a member of the organized Lutheran Church in China. The Norwegian Lutheran Church took over the Schreuder mission of Zululand and Natal. Many of the inner mission institutions received notable bequests during the year. The Texas synod of the United Lutheran Church established a hospital at Cuervo, Tex. The Augustana synod completed the Augustana Hospital in Chicago, Ill., as well as a \$200,000 addition to Immanuel Hospital, Portland, Ore.; it also was erecting a new hospital at Astoria, Ore., besides purchasing a Seamen's Home in New York City for \$200,000. The Lutheran Immigrants' House Association cares for the port work in New York.

The joint Ohio synod dedicated an orphans' and old people's home at Melville, Sask., Canada, and the Lutherans of southern California completed the California Lutheran Hospital at Los Angeles. The convention of the United Lutheran Church authorized a \$4,000,000 campaign for ministerial pensions, to be conducted in 1928, and the Missouri synod laymen's league re-

ported the completion of its fund of \$3,000,000. Street preaching was inaugurated in several large cities.

A number of synodical histories, hand books, and other books were published by the United Lutheran Church and other groups during the year. The official publication is *The Lutheran*. The United Lutheran Publication House, with headquarters in the Muhlenberg Building in Philadelphia, added to its branch property holdings a building at 39 East 35th Street, New York City, at a cost of about \$200,000, and this was to become headquarters for the United Lutheran Church in New York City in 1927. Greater emphasis was placed on organized and systematic effort for the dissemination of information concerning the Lutheran Church, especially through daily newspapers and magazines. The United Lutheran Church established a radio station at Cornell University, and undertook the support of the Concordia Seminary radio broadcasting station in St. Louis.

Building programmes were carried on in a number of Lutheran colleges, including one involving \$500,000 at Capital University, Columbus, O., and several endowment campaigns were successfully completed. The Lutheran Training School for the people of the Southern mountains was established at Konnarock, Va., and Luther College, Regina, Sask., Canada, was dedicated by the joint Ohio synod. An endowment campaign conducted by the Norwegian Lutheran Church raised almost \$3,000,000 for its colleges. The Missouri synod dedicated Concordia Theological Seminary, said to be the largest of the kind in America, at a cost of \$2,500,000, as well as a preparatory college for ministerial students at Austin, Tex.; the latter was opened October, 1926. The number of students increased in all the educational institutions, especially the number of students for the ministry.

Statistics for the denomination in the United States and Canada are given in the accompanying table:

Ministers .....	11,149
Congregations .....	16,686
Membership:	
Baptized .....	4,057,859
Confirmed .....	2,657,824
Communing .....	2,243,266
Sunday schools .....	11,508
Officers and teachers .....	115,377
Scholars .....	1,181,591
Value of congregational property .....	\$273,504,973
Total congregational expenses .....	\$39,795,957
Total benevolence .....	\$12,088,478
Total expenditure .....	\$52,409,904

The Lutherans of the world numbered 80,000,000 to 100,000,000, with 69,441 congregations served by 48,689 pastors. They formed 47 per cent of Protestantism, 14 per cent of Christendom, and 5 per cent of the world population. The outstanding events of 1926 were: The meeting of the executive committee of the Lutheran world convention at Dresden, Germany, June 30-July 7, at which it was decided to hold the second world convention at Copenhagen in June or September, 1929 (the 400th anniversary year of the publication of Luther's Small Catechism) and to publish before that time a hand book of the Lutheran Church of the world; the quadri-centennial celebration of Lutheran church polity; the tri-centennial of

the Lutheran church in Paris in December; the placing of a loan in America for the Protestant Welfare Agencies; the presentation of Luther's birthplace to the Lutheran Church by the City Council of Eisleben and the change of the city's name from Eisleben to Eisleben-Lutherstadt; the organization of the Lutheran Church Union of South and West Africa as an intersynodical organization; the organization of the Lutheran Church of Jugo-Slavia in April, with 250,000 members; the removal of the missionary restrictions in British possessions against the Schleswig-Holstein, Gossner, and Danish missionary societies. The significant tendency of the year was a swing from nationalism and rationalism back to evangelical faith.

**LUXEMBURG**, lüks'em-bürg. A small state of western Europe, bounded by Germany, France, and Belgium; neutralized by the Treaty of London, 1867; occupied by the Germans during the war; restored to independence after the armistice. Area, 999 square miles; population, according to the census of 1922, 260,767, as compared with 263,824, Dec. 1, 1916. The great majority of the population is Roman Catholic. Luxembourg is a country of small landowners and of farmers tilling their own holdings. The total area of land devoted to agriculture is about 500,000 acres, and of this amount approximately 430,000 acres are farmed by resident proprietors. Individual farms number in the neighborhood of 40,000. The principal foodstuffs raised in the grand duchy are potatoes and cereal grains, including rye, wheat, barley, and oats. The cultivation of oats covers the largest area of land and is followed in importance by potatoes. The leading industry of the state, however, is mining and the production of iron and steel. The mineral resources of Luxembourg include comparatively extensive iron-ore mines, as well as slate, lime, dolomite, quartzite, and stone beds. The production of iron ore which in 1925 reached 6,786,845 tons was gradually returning to its pre-war level of nearly 7,500,000 tons. The bulk of the 1925 production was consumed domestically and the remainder shipped to neighboring steel centres in Belgium, France, and Germany. Brick, printing, and leather and glove industries are also relatively important. Separate figures on foreign trade have not been available since the economic union in 1922 with Belgium. The budget estimates for 1926 were: Revenue, 166,173,340 francs; expenditure, 161,534,437 francs. The public debt on Dec. 31, 1924, amounted to 468,742,945 francs. In 1924 there were 334 miles of railways. Under the constitution, as amended in 1910, sovereign power rests in the nation and the representatives are elected on the basis of universal suffrage and proportional representation. The Grand Duchess in 1926 was Charlotte Aldegonde, born Jan. 23, 1896, who succeeded to the throne, Jan. 9, 1919. The Minister of State and President of the Government was Pierre Pruom. The other members of the cabinet were: Director-General of Justice, Public Works, Trade and Industry, N. Dumont; Social Welfare and Labor, O. Decker; Finance and Public Instruction, A. Schmit.

**LYMAN**, GEORGE RICHARD. American plant pathologist and dean of West Virginia College of Agriculture, died at Baltimore, Md. June 7. He was born at Lee Center, Ill., Dec. 1, 1871, and after graduating at Beloit (Wis.) College in 1894, studied at Harvard, where he took the

degree of Ph.D. in 1906. From 1901-04 he was instructor in botany at Dartmouth, and from 1904-15 assistant professor. From 1916-23 he was pathologist in charge of plant disease survey of the United States Department of Agriculture, and in the latter year became dean of the West Virginia College of Agriculture, a position he held at the time of his death. During the War he was a member of the War Emergency Board of American Plant Pathologists, and chairman of the advisory board of the same organization, 1919-21. From 1919-22 he was a member of the National Research Council. He belonged to many scientific societies both general and those especially devoted to botany, serving as secretary-treasurer of the American Phytopathological Society from 1919-22, and president in 1923. He was the author of many articles and reports on mycology and plant diseases.

**LYNCHINGS.** The number of lynchings in the United States during the year 1926, as compiled by the Department of Records and Research of Tuskegee Institute, was put at 29. This was 13 more than the number, 16, for 1925, 13 more than the number, 16, for 1924, 4 less than the number, 33, for 1923, and 28 less than the number, 57, for 1922. In a statement to the press analyzing the lynching figures, Dr. Robert R. Moton, principal of the Institute, pointed out that the courts had acquitted one of the victims, and that 20 of the persons lynched had been taken from the hands of the law, 8 from jails, and 12 from officers or the law outside of jails. Two of the persons lynched were women.

"There were thirty-three instances in which officers of the law prevented lynchings," Dr. Moton said. "Four of these were in Northern States and twenty-nine in Southern States. In twenty-seven of the cases the prisoners were removed or the guards augmented or other precautions taken. In six other instances armed force was used to repel the would-be lynchers. In thirty-four instances during the year persons charged with being connected with lynching mobs were indicted. Of the thirty-four persons thus before the courts, nine were sentenced to the penitentiary; eight for terms ranging from four to twenty years, and one for life."

According to Dr. Moton's statement 22 of the total number of lynching victims were Negroes. Six were whites and one an Indian. The charge of rape or attempted rape figured only in the cases of five of the lynched persons, that is, less than 17 per cent of the total. The offenses charged against the victims were as follows: murder, 8; rape, 2; attempted rape, 3; killing officer of the law, 5; wounding officer of the law, 2; attacking woman, 1; insulting woman, 1; frightening woman, 1; burglary, 1; charge not reported, 5.

The lynchings were distributed according to states as follows: Arkansas, 2; Florida, 8; Georgia, 1; Kentucky, 1; Mississippi, 4; New Mexico, 1; South Carolina, 3; Tennessee, 1; Texas, 7; Virginia, 1.

The triple lynching of Bertha Lowman and her two brothers at Aiken, S. C., on Oct. 8 raised a storm of protest throughout the country. The *New York World* sent a reporter to investigate the lynching. The reporter succeeded in getting the names of the mob which had killed the three victims (one of whom was acquitted by the courts, and the other two granted new trials). The *New York World* published the

names in the hope of stirring the South Carolina authorities to action. But up to the end of the year no action was taken. According to a survey made by the *World*, a number of Southern states were active in punishing members of lynching mobs. The State of Georgia speedily meted out various punishments to nine confessed members of the Coffee County mob responsible for the lynching of Dave Wright on August 27. Wright was a white man.

The State of Kentucky did not hesitate to use machine guns to guard prisoners against lynching mobs. The State has a law providing for the removal of officials in direct charge of prisoners who do not use the utmost effort of protection. The States of Tennessee and Oklahoma have laws providing strict penalties for depredations or violence committed by persons wearing masks. The State of North Carolina is remarkably free from lynching, the survey showed. It has had only one lynching in six years. About a dozen men are serving terms in prison for participation in mob activities during the year 1925, and the governor steadfastly refused to exercise clemency in their behalf. In the State of Virginia, action by the Grand Jury has always followed any lynching. In the case of the 1926 lynching, Governor Byrd posted \$1000 reward for information as to members of the mob.

**McALPINE, REV. ROBERT JOHN.** Canadian clergyman, died at Waverly Beach, Ontario, September 5. He was born at Cedarville, Ontario, Canada, Aug. 25, 1874, and after graduating in pharmacy at the University of Toronto continued his studies, receiving the degree of B.A. in 1899 and M.A. in 1900, later studying theology at Knox College. He was ordained to the Presbyterian ministry in 1902 in which year he became pastor at Owen Sound, Ontario, 1902-07, when he went to the North Church, Cleveland, Ohio. In 1909 he became pastor of the Boulevard Church in the same city, being there until 1914, when he was called to the Central Church, Buffalo, N. Y. Here he was able to build up the membership of the church from 500 to 2650, making it the third largest Presbyterian congregation in the United States. For two years the services of this church and Dr. McAlpine's sermons were broadcast regularly, and he enjoyed a wide influence, not only in his own parish, but throughout his radio congregation. He was a member of the General Assembly's Committee on consolidation and reconstruction of all boards of the Presbyterian Church in the United States. His writings included: *Bible Readings and Prayers* (1918); *What Is True Religion?* (1923); *There Is No Death*.

**MACAO, mǎ-k'ǎo.** An island at the mouth of the Canton River, in China, which with the two adjacent islands of Taipa and Colôane, constitute a province of Portugal. Area, 4 square miles, population, according to the census of 1910, 74,866, of whom 2171 were Portuguese and the remainder for the most part Chinese. The trade is chiefly in transit and is mainly in the hands of the Chinese. In 1924-25 the revenue and expenditures balanced at 5,473,925 escudos. The city of Macao is divided into two parts, inhabited respectively by Chinese and non-Chinese, each under its own administration.

**MacARTHUR, ARTHUR FREDERIC.** American engineer and contractor, died at Salt Lake City, Utah, November 30. He was born at Oramel, Allegany County, New York, Oct. 24, 1860, and

graduated from Harvard University in 1882. In the following year he was superintendent for MacArthur Brothers in St. Paul, and continued with that contracting firm which handled some of the largest railway, water works, and other construction work in the United States. In 1892 he became general manager at Chicago of MacArthur Brothers, in 1893 vice-president, and five years later, president of the same company with headquarters in New York. He was also president of various subsidiary companies. Some of the construction under his direction included the dam and reservoir for the Boston water supply system, many sections of aqueduct and the Ashokan Dam of the Catskill water supply for New York City, and various projects during the World War.

**McBRIDE, ROBERT W.** American jurist, died at Indianapolis, Ind., May 15. He was born in Richland County, Ohio, Jan. 25, 1842, and after studying at public schools in Ohio and Iowa, and at the Kirkville, Iowa, Academy, taught school for three years and then entered the Union Army. The cavalry regiment in which he served during the war was the Union Light Guard of Ohio, Abraham Lincoln's body guard. After the war he was captain, lieutenant-colonel, and colonel in the Third Regiment of the Indiana National Guard. After the war Judge McBride was admitted to the bar in April, 1867, practicing at Waterloo, Indiana. He became judge of the Circuit Court of the Thirty-fifth Judicial District in 1882, serving until 1888, and on December 17, 1890 became justice of the Supreme Court of Indiana, by appointment of the Governor, to fill a vacancy, serving until January 2, 1893. He was director and counsel of the loan department of the State Life Insurance Company, and a member of the Indianapolis Bar Association, and of the Indiana State Bar Association, being president of that Association, 1915-16. In 1917 he was adjutant-general of the Grand Army of the Republic, and department commander of the Department of Indiana, 1920-21. In 1921-22 he was senior vice-commander in chief of the G. A. R. and from 1922-26 he held the office of Judge Advocate General.

**McCLERNAND, EDWARD JOHN.** American soldier, died February 9. He was born at Jacksonville, Ill., Dec. 29, 1848, the son of Major-General John Alexander McClernand who commanded the Thirteenth Army Corps in the Civil War. Graduating from the United States Military Academy in 1870, he was appointed Second Lieutenant of the Second Cavalry, being successively promoted until in the Spanish-American War he was made lieutenant-colonel, assistant adjutant-general of volunteers, May 9, 1898, serving in this rank until Aug. 16, 1899. He was colonel of the Forty-fourth United States Infantry Volunteers, Aug. 17, 1899, serving until honorably mustered out of the volunteer service June 30, 1901, in which year he returned to the regular establishment as major of the Twelfth Cavalry, serving in this arm of the service and as brigadier-general until retired Dec. 29, 1912. During his campaigns in the west he was breveted first lieutenant Feb. 27, 1890, "for gallantry in pursuit of Indians and in actions against them at Bear Paw Mountains, Mont., Sept. 30, 1877," and was awarded a Congressional Medal of Honor, Nov. 27, 1894, "for most distinguished gallantry in action against Nez Percé Indians." He served in the Spanish Amer-

ican War, in the Santiago Campaign, and later in the Philippines.

**McCOY, WILLIAM JOHNSTON.** An American composer, died in Oakland, Cal., October 15. He was born in Bucyrus, O., Mar. 14, 1854, and received his musical education in New York and Leipzig. Returning from Germany, he settled in New York as a concert pianist. From 1896-1918 he was professor of Theory at the University of the Pacific in San José, and from 1918-25 he was connected with Mills College. For his opera *Egypt* he received the David Bispham Medal from the American Operatic Society. He wrote the music for two of the Bohemian Grove Plays, *The Hamadryad* (1904) and *The Cave Man* (1910). He tried his hand at practically every form of composition and was the author of *Cumulative Harmony*.

**McDONALD, JOHN BACON.** American army officer, died March 15. He was born in Alabama, Feb. 8, 1859, and after graduating from the United States Military Academy in 1881, was commissioned second lieutenant in the Fifth Infantry, serving in this arm of the service until Mar. 2, 1882 when he transferred to the Tenth Cavalry. In addition to service with the troops he was commandant of cadets at the Agricultural and Mechanical College, Auburn, Alabama, 1888-91, professor of military science and tactics and commandant of cadets at the South Carolina Military Academy, 1897-98, and served as mustering officer to the State of Alabama, September to November, 1898. In 1898 in the Spanish-American War, he was lieutenant colonel of the First Alabama Infantry, and was honorably mustered out of the volunteer service October 31 of the same year. He served in the cavalry in the Philippine Islands, where he was wounded in battle at Borongahong, April 27, 1901, and became commander of Fort Ethan Allen, Vermont, in 1907. He served in the Inspector General's Department, 1914-17, and in the World War he became brigadier-general commanding the One-hundred and Eighty-first Infantry in the Ninety-first Division in Belgium and France, participating in the St. Mihiel, Meuse-Argonne, and Ypres-Lys offensives.

**MACEDONIA**, mäs'e-dō'nä. A region in the Balkan peninsula, nearly corresponding to the vilayet of Saloniki, in the former Turkish Empire; after the Balkan Wars partitioned among Greece, Serbia, and Bulgaria, Greece receiving the largest share. The departments under Greek control with their populations, according to the census of 1920, are as follows: Saloniki, 407,238; Drama, 182,593; Kosani, 163,004; Florina, 127,941; Serres, 112,135; Pellis, 97,521; total, 1,090,432.

**McFADDEN, GEORGE H.** American cotton merchant, died at Rosemont, Pa., October 15. He was born at Philadelphia, Pa., July 24, 1847, and was educated at the Friends' Central High School of Philadelphia. He was in business in Philadelphia from 1868, and for many years was senior member of the firm of George H. McFadden & Brother, cotton merchants. He was also a partner in cotton firms in Liverpool and other European cities, and a director of the Pennsylvania Railroad, the Philadelphia National Bank, the Girard Trust Company, the Insurance Company of North America, and the Western Savings Fund. He was interested in many philanthropic enterprises in Philadelphia, and was a leading benefactor of the University of Pennsylvania being also a trustee of its

hospital. He equipped the hydrotherapeutic laboratory of that institution, and in 1914, gave \$12,000 for the purchase of radium to be used in cancer research. During the World War he represented the United States War Trade Board in France, and received the Distinguished Service Medal for his services to the Government, the presentation being made by General Pershing. He was one of the leading figures in the world's cotton markets, and the New York Cotton Exchange not only passed resolutions of sympathy, but suspended trading for two minutes as a mark of respect to one who had been a member of the exchange since 1881.

**MCGILL UNIVERSITY.** A co-educational institution of higher education at Montreal, Quebec, Canada; founded in 1821. The enrollment for the fall session of 1926 was 2719, distributed as follows: arts, 1023; applied science, 337; medicine, 438; commerce, 213; graduate school, 128; music, 153; dentistry, 56; law, 61; physical education, 59; pharmacy, 26; social workers, 29; graduate nurses, 24; Macdonald College (agriculture and household science), 172. The registration in the French Summer School of 1926 was 181. The number of members on the teaching staff was 421. Additions to the staff during the year included W. L. Graaf, Ph.D., assistant professor of German; W. C. Poole, M.A., instructor in sociology; L. A. Bissell, M.A., assistant professor of romance languages; W. H. Brittain, B.S.A., Ph.D., professor of entomology; J. E. Lattimer, B.S.A., Ph.D., assistant professor of agricultural economics; Aigy S. Noad, M.A., assistant professor of English. The productive funds of the University amounted to \$17,895,000, and the income for the year to \$1,917,000. The library contained 268,059 volumes. During the year a new Arts Building was erected at a cost of over \$750,000. Principal, Sir Arthur William Currie, G.C.M.G., K.C.B., LL.D.

**McKENNA, JOSEPH.** American jurist and former justice of the Federal Supreme Court, died at Washington, D. C., November 21. He was born at Philadelphia, Pa., Aug. 10, 1843, and attended St. Joseph's College in that city until 1855, when he moved with his parents to Benicia, Calif. There he went to the public schools, and after graduating from the Benicia Collegiate Institute in 1865, was admitted to the bar in the same year. From 1866-68 he served as district attorney of Solano County, Calif., and from 1875-76 he was a member of the California House of Representatives. He was a candidate for Congress in 1876 and 1878, and later elected; he served from 1885-92 as the representative from the Second California District in the Forty-ninth to Fifty-second Congresses. On March 28 he resigned from Congress to become United States circuit judge of the Ninth Circuit, serving until 1897 when he was appointed Attorney-General in the Cabinet of President McKinley. On Jan. 26, 1898 he became Associate Justice of the United States Supreme Court, serving until Jan. 5, 1925 when he resigned.

**McKINLEY, WILLIAM BROWN.** United States senator from Illinois, died at Martinsville, Ind., December 7. He was born at Petersburg, Ill., Sept. 5, 1856, and after studying two years at the University of Illinois, entered business as a drug clerk, but in 1877 he became a partner with his brother in the banking and mortgage loan business. In 1885 he became interested in the development of electric interurban railways, and

continued in this field for the rest of his life, merging his own companies in 1923 with those of Clement Studebaker, Jr. into a new corporation known as the Illinois Power and Light Corporation. He entered political life in 1905, being elected a member of the Fifty-ninth Congress as a Republican, and remained in the lower house until 1913. After being out of office for two years he again served in the Sixty-fourth, Sixty-fifth, and Sixty-sixth Congresses from the Nineteenth Illinois District, and was elected United States senator in 1921. During his public life Senator McKinley showed great gift for party organization and he was an active member of the congresses in which he served as well as of the Senate. He advocated the building of a Great Lakes-St. Lawrence waterway, and favored the World Court. This was stated to have cost him the Republican nomination for the senatorship in 1926, when he was defeated by Colonel Frank L. Smith in the Republican primary.

**MacLAREN, JOHN JAMES.** Canadian jurist, died in Toronto, Canada, July 3. He was born at Lachute, Quebec, July 1, 1840, and was educated at Victoria University, receiving the degree of B.A., and being Prince of Wales Gold Medallist in 1862. In 1868 he received the degree of LL.B. and served as British Secretary of the British and American Joint Commission on Oregon Claims, 1867-69. He became advocate at Quebec in 1868, and Queen's Counsel in 1878, being a member of the Bar Council and law examiner. In 1884, moving from Montreal to Toronto, he became a barrister of Ontario, and from 1886-90 he was honorary lecturer on comparative jurisprudence at the University of Toronto. MacLaren became vice-chancellor and regent of Victoria University in 1870, which honored him with the degree of LL.D. in 1886, and in 1891 senator of the University of Toronto. He was appointed a judge of the Supreme Court of Judicature for Ontario and a Puisne Judge of the Court of Appeal for Ontario, Nov. 21, 1902, serving until 1923 when he retired. In addition to being justice of the Appellate Division of the Supreme Court of Ontario he served as president of the Toronto Young Men's Christian Association, the Toronto Law and Order League, the Dominion Prohibitory Alliance, and the International Sunday School Association. In 1920 he was president of the World's Sunday School Convention at Tokyo, Japan, and later succeeded John Wanamaker as the head of the Association. He served on the International Sunday School Lesson Committee. He wrote: *Roman Law in English Jurisprudence* (1887); *Bills, Notes, and Cheques* (5th edition 1916); and *Banks and Banking* (4th edition 1914).

**MCMILLAN, SIR WILLIAM.** Australian politician and former President of the Sydney Chamber of Commerce, died at Melbourne, Australia, on December 21. He was born at Londonderry, Ireland, on Nov. 14, 1850, and was educated at Wesley College, Dublin, and at private schools in London. He arrived in Australia in 1869 and was a member of the firm W. and A. McArthur of London and Sydney. In 1886 he became President of the Sydney Chamber of Commerce, and in the following year he entered the New South Wales Parliament. He became Colonial Treasurer in 1889 and in the next year was appointed a member of the Federal Conference. He was a delegate to the Federal Conventions in 1891 and 1897. In 1901 he was made a K.C.M.G. for his services to the Commonwealth, and from 1901 to

1903 he was a member of the House of Representatives of the Federal Parliament.

**MCNARY-HAUGEN BILL.** See AGRICULTURAL LEGISLATION.

**MADAGASCAR.** An island belonging to France lying off the southeast coast of Africa, from which it is separated by the Mozambique Channel, about 240 miles wide at its narrowest point. The island, whose area is estimated at 228,707 square miles, has over 3000 miles of coast, and is 980 miles long with a greatest breadth of 360 miles. The population according to the census of July, 1921 (including the Mayotte and Comoro Islands), was 3,382,161, of whom 3,353,731 were Malagasy, 19,359 Europeans, and 8135 Asiatics. The most numerous tribes of the Malagasy are the Hova or Merina, which are the most industrious and enterprising, and whose language is the prevailing dialect. Capital, Antananarivo, in the centre of the island with a population in 1921 of 58,459. Other large towns are: Tamatave, with a population in 1921 of 11,762; and Diego Suarez, with 11,855. The former is the principal port on the east coast and the latter in the north. Education is compulsory from 8 to 14 years of age. On Sept. 15, 1925, there were 991 official schools for European and native children, with 90,833 pupils and 1739 teachers, and 517 private schools, with 49,750 pupils and 1144 teachers.

**PRODUCTION.** The chief occupation of the people is agriculture and the principal product grown by the natives is rice. Other products are vanilla, cloves, coffee, sugar cane, manioc, butter beans, and mangrove bark. The French have introduced the culture of cotton, rubber, tobacco and the silk worm. The forests contain many valuable woods. Among the minerals are graphite, corundum and mica, gold, precious stones, iron, and copper. Some radio-active ores have been exported in small quantities.

**COMMERCE.** A new high level for imports and exports expressed the economic prosperity of Madagascar that was so decisively manifest in 1925 and in the preceding year. Of primary importance in bringing about this improvement was the spectacular rise of vanilla prices in the world market, although good conditions in such lines as coffee, rice, graphite, hides, canned meats, and manioc also contributed. The total imports of Madagascar and its dependencies during the year 1925 amounted to 116,300 metric tons, valued at 491,854,000 francs. This represents an increase of 28 per cent in tonnage and 89 per cent in franc value, as compared with imports in 1924. Exports of rice showed a heavy decline from 1924, but shipments of other products maintained a high average. Shipments abroad in 1925 totaled 229,969 tons, valued at 44,923,818 francs and represented a decrease of 23 per cent in tonnage and an increase of 14 per cent in franc value as compared with 1924.

**FINANCE.** Actual receipts for 1924 amounted to 131,286,274 francs, and expenditures to 103,682,750 francs. The budgetary estimates for the calendar year, 1925, balanced at 122,497,834 francs.

**COMMUNICATIONS.** In 1924, 6903 vessels of 2,185,959 tons entered and 6917 vessels of 2,194,952 tons cleared from the ports of Madagascar. The total railway mileage (including narrow-gauge local lines) on Dec. 31, 1925, was 430 miles. Late in 1926 the French Minister for the Colonies approved a programme covering the execution of extensive public works in Madagas-

car, submitted by the Governor-General of that island. Among the projects provided for was the construction of a railroad to connect part of Manakara on the east coast with the region of Betsileo, rich in agricultural and mining possibilities. The building of this railroad was definitely authorized by a decree dated Sept. 23, 1926.

**GOVERNMENT.** The colony is under a governor-general aided by a consultative council of administration. Governor-General in 1926, Marcel Olivier (appointed Jan. 11, 1924). Dependent upon Madagascar are the small islands of Nossi Bé, Diego Suarez, Ste. Marie, and the Comoro group.

**MAINE. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 768,014. The estimated population on July 1, 1926, was 790,000. The capital is Augusta.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Potatoes	1926	127,000	38,830,000	\$48,984,000
	1925	135,000	33,750,000	67,500,000
Hay, tame	1926	1,272,000	1,428,000 *	18,850,000
	1925	1,268,000	1,531,000 *	18,372,000
Oats	1926	136,000	5,168,000	3,256,000
	1925	135,000	6,075,000	3,341,000

\* tons.

**MINERAL PRODUCTION.** The chief mineral product of the State is stone, of which the quantity produced in 1924 was 263,720 short tons, and in 1923, 306,620 short tons; in value, \$2,411,938 in 1924 and \$3,168,396 in 1923. Slate, classified separately, was produced to the value of \$604,062 in 1925 and \$667,541 in 1924. Lime production attained a quantity of 117,000 short tons (estimated) in 1925 and 125,688 short tons in 1924; and a value of \$1,600,000 (estimated) in 1925 and \$1,809,929 in 1924. Clay products, field-spar and sand and gravel were produced. The total value of the State's mineral products in 1924 was \$6,035,160; in 1923, \$7,565,553.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$10,104,899. Their per capita rate was \$12.93, as against \$13.09 in 1924 and \$8.56 in 1917. Their total included \$1,852,025 for education, apportioned to minor civil divisions. Expenses totaling \$131,797 for public service enterprises, \$621,074 for interest on public debt and \$4,683,275 for permanent improvements, added to payments for the maintenance and operation of State departments, made the total of State payments \$15,541,045. For highways was expended the sum of \$6,349,087, of which \$2,189,920 was for maintenance and \$4,150,167 for construction.

Revenue receipts of the State were \$15,428,944, or \$10.75 per capita. They exceeded by \$4,571,174 the total payments except those for permanent improvements, and were \$112,101 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 44.6 per cent of the total revenue in 1925, as against 41.4 per cent in 1924 and 56.8 per cent in 1917. Their per capita rate was \$8.82 in 1925, \$8.14 in 1924 and \$5.49 in 1917.



Earnings of the general departments and compensation for officials' services furnished 10 per cent of the 1925 revenue; business and non-business licenses, 34 per cent. State license receipts were derived chiefly from taxes on incorporated companies and on sales of gasoline and from the licensing of motor vehicles. The net indebtedness of the State on June 30, 1925, was \$15,548,359, or \$19.90 per capita, as against \$19.23 in 1924 and \$4.99 in 1917. The assessed valuation of property subject to State tax was \$700,439,207. The State tax levy was \$5,058,422, or \$6.49 per capita.

**TRANSPORTATION.** The total mileage of railway line in operation at the end of 1925 was 2228. No new construction in 1926 was reported. Five miles of line between Kennebunk and Kennebunkport and 4 miles north of Caribassett were abandoned.

**EDUCATION.** The school population of the State, of ages from 5 to 21 years, was given by the State Department of Education as 243,151. Pupils enrolled, those in parochial schools not included, numbered 163,986; of this total 133,069 were enrolled in common schools and 30,917 in high schools. The year's expenditure for public education in the State totaled \$10,724,950. Salaries of teachers averaged \$980 per annum.

**CHARITIES AND CORRECTIONS.** The State Board of Charities and Corrections, a body of six appointive members created by act of 1913, inspects charitable and correctional institutions in the State, and presents recommendations as to their management. Its members constitute *ex officio* the Board of Mothers' Aid and the Board of Children's Guardians. For mothers' aid they expended \$99,591 in the fiscal year ending June 30, 1926; for child guardianship, \$274,995. The mothers' aid maintained 1635 children under 16 years of age at home with their mothers. The average monthly rate paid was \$27.12. In the work of child guardianship, the Board had custody of nearly 2000 children at the end of the fiscal year. These were placed in boarding homes and their welfare was supervised by 11 field workers.

The State maintained the following institutions in 1926: Augusta State Hospital, Augusta; Bangor State Hospital, Bangor; Central Maine Sanatorium, Fairfield; Northern Maine Sanatorium, Presque Isle; Western Maine Sanatorium, Greenwood Mountain; Bath Military and Naval Orphan Asylum, Bath; Pownal State School, West Pownal; State School for Boys, South Portland; State School for Girls, Hallowell; Maine State Prison, Thomaston; Reformatory for Men, South Windham; Reformatory for Women, Skowhegan.

**POLITICAL AND OTHER EVENTS.** At the special senatorial election on November 29, Arthur R. Gould of Presque Isle, Republican candidate, was elected U. S. Senator for the unexpired term of Bert M. Fernald, deceased, to continue until Mar. 4, 1931. He obtained a majority of approximately 50,000 votes over the Democratic candidate, Fulton J. Redman. Governor Ralph O. Brewster was reelected, September 13, on the Republican ticket as Governor for the term beginning Jan. 1, 1927. He made a declaration unfavorable to Gould a few days before the Senatorial election. All four Republican members of the United States House of Representatives from Maine were reelected in September. A constitutional amendment to forbid

use of State funds for private schools was defeated at the polls Sept. 13.

The White Star Line announced in September that it would cease using Portland as a winter terminus. Inhabitants of Kennebunk and Kennebunkport petitioned the Interstate Commerce Commission for further hearing of their pleas against abandonment by the Boston and Maine Railroad of line through their territory, but the Commission denied further hearing.

**OFFICERS,** Governor, R. O. Brewster; Secretary of State, Edgar C. Smith; Treasurer, William S. Owen; Auditor, E. D. Hayford; Attorney-General, Raymond Fellows; Commissioner of Education, A. O. Thomas; Adjutant-General, James W. Hanson; Chairman Public Utilities Commission, Charles E. Guernsey.

**JUDICIARY.** Supreme Court, Chief Justice, Scott Wilson; Associate Justices, Warren C. Phillbrook, Charles J. Dunn, Luere B. Deasy, Guy H. Sturgis, Charles P. Barnes, Norman L. Bassett and William Pattangall.

**MAINE, UNIVERSITY OF.** A co-educational State institution of higher education at Orono, Me.; founded in 1862. The enrollment for the autumn of 1926 was 1340. There were 292 members on the faculty, distributed as follows: teaching and administration, 147; experiment station, 22; agricultural extension service, 43. The productive funds of the University amounted to \$650,508.32, and the income for the year to \$845,250.67. The library had 80,000 volumes. A new laboratory for mechanical engineering, the gift of the late Oliver Crosby of the class of '76, to be known as the Crosby Memorial Laboratory, was under construction. Harold Sherburne Boardman, C.E., D.Eng., who was acting president in 1925, was inaugurated as President.

**MAIR, GEORGE HERBERT.** British journalist and at one time assistant director of the League of Nations Secretariat, died at London, England, January 3. He was born May 8, 1887, and was educated at Aberdeen University, and at Christ Church College, Oxford, where he graduated with honors. Later he studied at the Sorbonne, after which he joined the editorial staff of the *Manchester Guardian*. In 1914 he became assistant editor of the London *Daily Chronicle*, but being unfit for active service resigned, and devoted his full time to government work. In 1918 he was assistant secretary of the Ministry of Information, and in the following year director of the press section of the British Peace Delegation at Paris, France. He was made a Chevalier of the Legion of Honor in 1919, and in 1920 was honored by the British Government as Companion of St. Michael and St. George. He went to Geneva as assistant director of the League of Nations Secretariat, and returned to London as the head of the League of Nations' office in that city. Resigning his connection with the League he returned to journalism. His publications included: An edition of Wilson's *Arte of Rhetorique* (1908); *English Literature: Modern* (1911); enlarged edition of above, (1914); and many articles in papers and reviews.

**MAIZE.** See CORN.

**MALACCA.** One of the STRAITS SETTLEMENTS (q.v.).

**MALAY STATES.** See FEDERATED MALAY STATES.

**MALDIV ARCHIPELAGO.** See CEYLON.

**MALTA.** An island in the Mediterranean Sea, forming along with the adjacent islands of Gozo and Comino a British colony, lying 58



miles south of Italy and 180 miles from the African coast. Area of the island of Malta, 95 square miles; total area with Gozo and Comino, 122 square miles. Population, according to the census of April 24, 1921, 224,680, of whom the civil population numbered 213,024. Valletta is the chief town and port. There were 109 public schools with 22,741 pupils at the beginning of the school year 1924-25; a university with six faculties and 130 students; a lyceum for boys with 638 students; two secondary schools; and seven technical manual schools. Farming is the principal occupation and the chief products include: Wheat, potatoes, onions, barley, tomatoes, forage, cotton, grapes and other fruits. The value of agricultural produce in 1924-25 was £800,016. Stock-raising and fisheries are also of importance. The manufactures include lace, cotton, cigarettes, and filigree. The imports normally exceed exports, although invisible items of trade such as tourist money, the importance of the island to the British navy, and as a port of call for merchant steamers, and money sent home by emigrants tend to balance the imports and exports. The imports in 1924 were valued at £4,416,423 and the exports at £1,451,766. Most of the imports come from Great Britain and British possessions. The revenue in 1924-25 was £773,015 and the expenditure, £757,966. Executive power is in the governor and commander-in-chief, and legislative power in a legislature of two chambers. Governor and commander-in-chief at the beginning of the year, Gen. Sir W. N. Congreve; prime minister, Ugo Pasquale. The other members of the cabinet were: Public Health, Carmelo Mifsud; Public Instruction, Enrico Mizzi; Public Works, Giovanni Adami; Justice, Carlo Mallia.

**MAMMALS.** See ZOOLOGY.

**MAN, PREHISTORIC.** See ANTHROPOLOGY.

**MANAGER, CITY.** See MUNICIPAL GOVERNMENT.

**MANCE, SIR HENRY CHRISTOPHER.** British electrical engineer and inventor, died at Oxford, England, April 22. He was born at Brockley in 1840, and after being educated privately, entered the service of the Indian Government in the Persian Gulf Telegraph Department in 1863. He became engineer and electrician of the line in 1879, holding the position until his retirement in 1885. He was a keen student and inventor, particularly in the field of submarine telegraphy, his invention of "Mance's Method" for locating faults in ocean cables being familiar to electricians universally. He also designed a method of testing the internal resistance of electric batteries, as well as the heliograph which was used by the Indian Government for the rapid transmission of messages in frontier warfare. The importance of this device was recognized by Lord Roberts in the second Afghan War, and from that time became a feature of the communication equipment of the British Army, and later in other countries. Sir Henry Mance was a member of the Physical Society, and published many papers of importance on electrical subjects.

**MANCHURIA,** man-chōō'-rē-ā. A vast region in Asia, lying between the province of Chihli in China proper and the Amur River, extending eastward from the Hingan Mountains to Korea and the Usuri River; divided into the three provinces of Feng-tien, Kirin, and Heilungchiang. The total area is estimated at about 363,610 square miles and the population esti-

mates vary from slightly under 6,000,000 to almost 30,000,000. The true figure is probably around 20,000,000. Capital, Mukden, with a population of about 250,000. Other important cities are: Newchang, 65,600; Ying-K'ou, 60,000; An-lung, 74,600; and Chang-chun, 80,000.

The most important industry of the country is agriculture, the soil being among the richest in the world. Beans, millet, rice, and wheat are the chief crops. The area under cultivation is approximately 81,718,000 acres, of which beans occupy 19,193,756 acres and wheat 7,241,087 acres. Formerly the entire wheat crop was exported, but of late years the flour milling industry has grown up with the increase in the production of wheat. There are about 40 mills in operation which have an annual output of about 15,000,000 sacks. Beet-growing is also developing. Livestock interests are also considerable and hog-raising is the leading industry in the densely populated regions of the north. The mineral resources are also considerable and include coal, iron, gold, silver, lead, and asbestos. Manchuria has increased in wealth more rapidly than any other part of China, partly because of improved transportation, partly because of the great development of soya bean cultivation. In 1924 the direct foreign imports of Manchuria amounted to 126,495,474 haikwan taels, and the direct foreign exports to 208,477,112 haikwan taels.

Manchuria is traversed by the South Manchuria Railway, the Chinese Eastern Railway, and the Chinese Government Railways. Freight carried on the South Manchurian Railway increased from 13,371,589 tons in 1923-24 to 14,600,000 tons in 1924-25, and on the Chinese Eastern Railway from 2,767,350 tons in 1924 to 3,199,148 tons in 1925. Extensive railway development took place in Manchuria in 1925. The first railway construction undertaken in 1925 was a 190-mile line from Mukden to Hailung. The undertaking was semi-official and involved the construction of a standard gauge line between these two points, traversing a rich, thickly populated area, which produces beans, hemp, wheat, tobacco, and has mineral resources. Another important transportation development was the undertaking of construction of a railway from Taonan, northward to Tsitsihar, a distance of 150 miles. The line is an extension of the Supinghai-Taonan, which connects with the South Manchurian at Supinghai, north of Mukden. Considerable opposition was raised to the construction of the line because it was feared that traffic now handled by the Chinese Eastern Railway might be diverted to the new line. Contracts were let late in 1925 for the construction of the Kirin-Tunhua line, construction of which was to begin near the end of 1926. This railway, which lies entirely within Kirin province, will run a distance of 162 miles from Kirin City due east to Tunhua. The line will be an extension of the Kirin-Changchun, which joins the South Manchurian west of Changchun. The extension will tap a rich timber district and fertile agricultural country. Since 1922 Manchuria has been practically autonomous under the rule of Marshal Chang Tso-lin. In February, 1926, a conference of delegates assembled at Mukden to draft a Manchurian constitution.

**MANDATES.** See LEAGUE OF NATIONS.

**MANGANESE.** Domestic shipments of manganese ore containing 35 per cent and more of metallic manganese totaled in 1926 approximately 44,000 long tons, valued at \$1,185,000,

according to estimates of the U. S. Bureau of Mines. This was a decrease of 55 per cent from the 1925 shipments, amounting to 98,324 tons. The increase in average value per ton of all ore shipped in 1926 was due to the fact that the ratio of the shipments of chemical ore to those of metallurgical ore greatly increased. The shipments of metallurgical ore amounted to 24,200 tons, valued at \$332,000, while those of 1925 were 76,173 tons, valued at \$954,799. The shipments of chemical ore in 1926 amounted to 19,800 tons, valued at \$853,600, while those of 1925 were 22,151 tons, valued at \$902,970.

The total imports of manganese ores for the year 1926 were estimated at about 745,000 tons, as compared with 615,000 tons in 1925, an increase of 130,000 tons. This large increase may be accounted for by the decrease in imports of ferromanganese and to the increase of stocks in the United States. A portion of this during 1926 was in part due to the increase in the production of steel. The shipments of domestic ores containing from 10 to 35 per cent manganese increased in 1926 from 267,252 tons, valued at \$915,316, to approximately 366,500 tons, valued at \$1,119,000. This increase was due to the large increase in production in Minnesota and New Mexico, whereas production in Colorado and Georgia decreased. The domestic shipments of ore containing 5 to 10 per cent manganese show a decided decrease from those of 1925. This decrease was due to the fact that the Ottawa mine in Wisconsin produced 347,639 tons of ore containing only 4.8 per cent manganese in the natural state. Shipments from Minnesota increased from 741,409 tons in 1925 to 810,769 tons in 1926, and those from Wisconsin decreased from 404,014 tons containing over 5 per cent manganese to 347,639 tons containing 4.8 per cent.

**MANHATTAN ISLAND, ANNIVERSARY OF PURCHASE OF.** See CELEBRATIONS.

**MANITOBA, măn'itô'bă.** The most eastern of the Prairie Provinces of Canada, situated west of the province of Ontario and Hudson Bay and east of the province of Saskatchewan, extending from the American boundary north to latitude 60°. Area, 251,832 square miles; population, according to the census of 1921, 610,188. Capital, Winnipeg, with a population in 1921 of 179,087 (Greater Winnipeg, 230,000); Brandon, 15,359; St. Boniface, 12,821; Portage la Prairie, 6748. The movement of population in 1924 was: Births, 15,445; deaths, 5020; marriages, 4129. In 1924 there were 3980 teachers and 144,491 pupils in the 3887 public classrooms. There are 46 high schools, 9 junior high schools, 9 collegiate departments, and 12 collegiate institutes. For higher education there is the University of Manitoba at Winnipeg, with 3138 students enrolled for the full courses.

The estimated area of arable land in Manitoba is 25,000,000 acres of which about 30 per cent is under cultivation. In 1924 the mineral output consisting mainly of building material and gypsum was valued at \$1,569,571. Other important resources are forests and fisheries. In September, 1925, there were 692 grain elevators in Manitoba with a capacity of 25,120,600 bushels. The revenue in 1925 was \$7,239,520 and the expenditure, \$7,134,385. The total funded debt on April 30, 1925, \$72,066,802. The railway mileage was 4585.

The government consists of a lieutenant-governor appointed by the governor-general of

Canada and a legislative assembly consisting of 55 members elected for five years. Women have the right to vote and are eligible to parliament. Manitoba is represented in the Dominion Parliament by 6 members in the Senate and 17 in the House of Commons. Lieutenant-governor in 1926, Sir J. A. M. Aikens; prime minister, president of the council, and provincial treasurer, John Bracken; education, C. Cannon; agriculture, lands commissioner, and provincial secretary, A. Prefontaine; public works, W. R. Clubb; attorney-general and minister of telephones, R. W. Craig; municipal affairs and public utilities commissioner, D. L. McLeod.

**MANURES.** See FERTILIZERS.

**MAPOTHER, WIBLE LAWRENCE.** American railway president, died at Louisville, Ky., February 3. He was born at Louisville, Ky., Sept. 28, 1872, and after studying in public and private schools of that city, took a special commercial course at St. Mary's College. In 1888 he entered the service of the Louisville and Nashville Railroad as office boy, rising through successive grades to president of that company on Mar. 17, 1921. In 1918 he was appointed Federal manager of the United States Railroad Administration with jurisdiction over the L. & N. System, the L. H. & St. L., the N. C. & St. L., the Tenn. Central, the Birmingham and Northern Railways, and other terminal properties. Nov. 20, 1919 he was appointed Federal manager of the Atlanta & West Point Railway, and Western Railway of Alabama. He was a director on many railway boards, and also of the American Railway Association, and on the advisory committee of the American Railway Executives. His career with the Louisville and Nashville covers the extensive development of that system.

**MARATHONS.** See CROSS COUNTRY RUNNING.

**MARGHERITA, mür'gä-rë'tä** (MARIE MARGHERITA TERESA GIOVANNA DE SAVOIA). Dowager Queen of Italy, died at Bordighera, Italy, January 4. She was born at Turin, Nov. 4, 1851, the daughter of Prince Ferdinand of Savoy, Duke of Genoa, and the Princess Elizabeth, a daughter of the King of Saxony, who was an accomplished scholar. She was married Apr. 22, 1868, at Turin to her cousin, Humbert, Prince of Piedmont, and their son King Victor Emmanuel III was born at Naples, Nov. 11, 1869. On the death of King Victor Emmanuel II in January, 1878, Prince Humbert ascended the throne as Humbert I of Italy, and Queen Margherita soon established herself in the affections of the people, sharing in the popularity of the King. She participated actively in his philanthropic and charitable work, and on such occasions of national calamity as the floods of Verona and Venetia, the earthquake at Iachia, and the cholera outbreaks at Busca and Naples, she worked with the King, who devoted himself personally to relief measures. She was with the King on Nov. 16, 1878, when an attempt was made on his life, and her presence of mind, in throwing her bouquet of flowers in the face of the assassin, frustrated his attack. The King was finally murdered, at Monza, July 29, 1900, by an anarchist. Queen Margherita possessed a charm of manner and a sweetness of disposition which endeared her to the Italian people, and during her widowhood she continued various philanthropies and social activities.

**MARIE, QUEEN OF RUMANIA.** See RUMANIA.

**MARIETTA COLLEGE.** A non-sectarian co-educational college at Marietta, O.; founded in 1835. The fall term of 1926 had a total registration of 357 students, of whom 217 were men, and 140 women. The faculty numbered 31, an addition of three new members since 1925. The productive funds amounted to \$1,253,017.95 and the income for the year to \$143,999.91. In 1925 the library contained between 89,000 and 90,000 volumes. A new building was constructed during the year for the Betsy Mills Club, containing a fully equipped women's gymnasium with swimming pool. It was planned to use this gymnasium as a centre for the physical education work of the young women of the college. Towards a new men's gymnasium \$25,000 was given and \$10,000 to the scholarship funds. The alumni contributed \$9000 during 1925 through the Revolving Fund. President, Edward Smith Parsons, A.M., L.H.D.

**MARINE DISASTERS.** See SAFETY AT SEA.

**MARINE ENGINES.** See INTERNAL COMBUSTION ENGINES; SHIPBUILDING.

**MARINE INSURANCE.** See INSURANCE.

**MARITIME LAW.** See INTERNATIONAL LAW.

**MARITIME PROVINCES.** The name applied to the three Canadian provinces of Nova Scotia, New Brunswick, and Prince Edward Island (qq.v.).

**MARKETS, MARKETING.** See AGRICULTURE.

**MARKLEY, ALFRED COLLINS.** American soldier, died at Alton, Ill., August 25. He was born at Doylestown, Pa., Apr. 18, 1843, and was educated in Philadelphia, Pa., entering the Union Army with the Twenty-fifth Pennsylvania Infantry in 1862. He served in various Pennsylvania regiments, and in 1864 became second lieutenant of the One Hundred and Twenty-seventh United States Colored Infantry, being mustered out on October of the following year. On July 28, 1866, he was appointed second lieutenant of the Forty-first United States Infantry of the regular army, and served through successive grades to brigadier-general, being retired Apr. 18, 1907. In addition to his services in the Civil War, he was with the Army of Observation on the Rio Grande under General Sheridan in 1865, in frontier service against the Indians, 1867-80, served in Cuba in the Spanish-American War, June-August, 1898, and was commanding officer with the Twenty-fourth Infantry that volunteered to go to the yellow fever camp at Siboney for hospital and other service. Later General Markley commanded Fort D. A. Russell, Wyoming, and Vancouver Barracks, Washington, until December, 1899, when he was ordered to the Philippines, serving until 1902, when he returned to the United States to command Fort McDowell. He returned to the Philippines Oct. 5, 1905, and commanded Fort William McKinley at Manila.

**MARQUETTE UNIVERSITY.** An institution of higher education under Roman Catholic direction at Milwaukee, Wis.; founded in 1907. It comprises the following departments: Arts and Sciences, Applied Science and Engineering, Dentistry, Law and Economics, Journalism, Medicine, Conservatory of Music, Training School for Nurses, Hospital Administration, Business Administration. The enrollment for the autumn of 1926 was 2748 regular students, distributed as follows: arts and sciences, 871; graduate school, 104; business administration, 322; dentistry, 295; engineering, 456; journalism, 113; law, 196, medicine, 341; music, 27;

speech, 23. In addition there were 368 students in night courses in business administration, 26 in dental hygiene, 512 in the high school, 18 in the College of Hospital Administration, 343 in the Music Academy, 11 in the night law school, 94 in nursing courses, and 317 in teachers' course, making a grand total of 4,437 for the University. The registration for the 1926 summer session was 727. The faculty had 373 members, 64 being additions during the year. Endowment funds amounted to \$2,604,761.57, and the income for the year to \$1,055,907, from the following sources: endowment income, \$148,614; tuition, \$718,508; for increase in plant, \$585; for increase of endowment, \$158,101; for current expenses, \$4225; miscellaneous, \$25,874. Marquette University also enjoys the service of Jesuit instructors and administrative officers who receive their maintenance only. The value of their services over their maintenance for 1925-26 was estimated at \$119,500. The library contained 47,150 volumes. In 1926 the School of Speech was organized under the directorship of Prof. William R. Duffey. President, Rev. Albert C. Fox, S.J., M.A., LL.D.

**MARRIAGE AND DIVORCE.** A falling marriage rate and an increasing divorce rate in the United States were indicated by the report on marriages and divorces issued by the Department of Commerce in November, 1926. The figures are for the years 1924 and 1925, and show that while the marriage rate dropped from 10.4 per thousand population to 10.2, the divorce rate went up from 1.50 per thousand to 1.52. While the statistical changes were too small to give any cause for alarm, they indicated the trend of the times—a trend, which as stated in the 1925 YEAR BOOK was based on economic, moral, and religious conditions.

The theory that extensive publicity for divorce suits is a deterrent was beginning to be abandoned. In England in December, a bill passed the House of Commons on the third reading providing for the limiting the reports of divorces in the press. This was in line with the policy that had been practiced in France. There the newspapers mention only the names of the parties but give no details as to the testimony. Such a policy does not necessarily lead to less divorce, but is perhaps preferable on other grounds. A similar proposal has never been taken seriously by the various American State legislatures.

The total number of marriages in the United States for 1925, was 1,181,838, and the total number of divorces for that year was 175,495. The number of marriages increased by 3520, or 0.3 per cent, the number of divorces increased by 4543 or 2.7 per cent. In the meantime the estimated population increase was 1.5 per cent, so that the marriage increase was one-fifth of the population increase while the divorce increase was double the population rise. See table on Page 454.

**MARTIN, THOMAS F.** Secretary of State of New Jersey, died at Weehawken, N. J., July 20. He was born at Hartford, Conn., Jan. 30, 1868, and entered the publishing business through learning the printing art in Vermont. Going to New York he became a reporter on the *Hudson Dispatch*, a newspaper published in northern New Jersey, and in 1901 transformed that paper from a weekly into an afternoon daily. Along with his editorial and publishing work, Mr. Martin became active in politics and

## MARRIAGE AND DIVORCE IN THE UNITED STATES, 1924 AND 1925

	Marriages		Per cent of increase *	Number per 1000 of the population		Divorces		Per cent of increase *	Number per 1000 of the population	
	1925	1924		1925	1924	1925	1924		1925	1924
United States . . .	1,181,838	1,178,318	0.3	10.2	10.4	175,495	170,952	2.7	1.52	1.50
Alabama . . . . .	29,539	28,166	4.9	11.8	11.4	3,428	3,380	1.4	1.371	1.367
Arizona . . . . .	3,922	3,893	0.7	9.2	9.5	877	833	5.3	2.05	2.03
Arkansas . . . . .	29,134	28,432	2.5	15.5	15.3	4,750	4,516	5.2	2.53	2.43
California . . . . .	55,080	55,677	— 1.1	13.2	13.8	10,624	11,258	— 5.6	2.54	2.78
Colorado . . . . .	11,802	11,972	— 3.1	11.2	11.7	2,243	2,118	5.9	2.16	2.07
Connecticut . . . . .	12,269	12,896	— 4.9	7.8	8.4	1,231	1,207	2.0	0.783	0.785
Delaware . . . . .	1,178	1,236	— 4.7	5.0	5.3	207	177	16.9	9.87	0.75
District of Columbia . . . . .	5,653	5,383	5.0	11.0	10.8	158	126	25.4	0.31	0.25
Florida . . . . .	25,169	18,589	35.4	19.9	15.1	3,199	2,641	21.1	2.53	2.15
Georgia . . . . .	28,095	32,491	— 13.5	9.1	10.6	2,057	1,902	8.1	0.66	0.62
Idaho . . . . .	4,194	4,431	— 5.3	8.3	9.0	919	894	2.8	1.808	1.806
Illinois . . . . .	79,964	81,918	— 2.4	11.3	11.7	13,822	13,658	1.2	1.949	1.955
Indiana . . . . .	36,828	36,308	1.4	11.9	11.8	7,469	7,212	3.5	2.41	2.35
Iowa . . . . .	21,924	24,855	— 11.8	9.1	10.3	4,112	3,782	8.7	1.70	1.56
Kansas . . . . .	20,867	21,170	— 1.4	11.5	11.7	3,541	3,435	3.1	1.95	1.90
Kentucky . . . . .	28,202	27,606	2.2	11.2	11.1	4,164	4,298	— 3.1	1.66	1.72
Louisiana . . . . .	20,252	21,085	— 4.0	10.7	11.2	1,795	1,952	— 8.0	0.94	1.04
Maine . . . . .	6,224	6,380	— 2.4	7.9	8.1	1,230	1,235	— 0.4	1.56	1.58
Maryland . . . . .	25,447	25,342	0.4	16.3	16.4	1,614	1,664	— 3.0	1.03	1.08
Massachusetts . . . . .	31,238	32,080	— 2.6	7.5	7.8	3,332	3,793	— 12.2	0.80	0.92
Michigan . . . . .	46,276	49,788	— 7.1	10.8	11.9	9,541	9,244	3.2	2.23	2.21
Minnesota . . . . .	23,654	23,204	1.9	9.1	9.0	2,673	2,803	— 4.6	1.02	1.09
Mississippi . . . . .	28,212	27,453	2.8	15.8	15.3	2,907	2,506	16.0	1.62	1.40
Missouri . . . . .	38,940	39,752	— 2.0	11.2	11.5	9,438	9,104	3.7	2.71	2.62
Montana . . . . .	5,000	5,141	— 2.7	7.4	7.9	1,206	1,083	11.4	1.79	1.66
Nebraska . . . . .	8,085	4,234	91.0	5.9	3.1	1,336	1,894	— 29.5	0.97	1.89
Nevada . . . . .	1,122	1,079	4.0	14.5	13.9	1,082	1,037	4.3	13.98	13.40
New Hampshire . . . . .	4,571	4,575	— 0.1	10.1	10.2	655	671	— 2.4	1.46	1.49
New Jersey . . . . .	27,672	27,601	0.3	7.7	7.8	2,338	2,000	16.9	0.65	0.57
New Mexico . . . . .	4,284	4,443	— 3.6	11.2	11.7	558	498	12.0	1.45	1.31
New York . . . . .	108,995	106,312	2.5	9.8	9.6	4,611	4,622	— 0.2	0.41	0.42
North Carolina . . . . .	23,337	23,190	0.6	8.3	8.4	1,576	1,468	7.4	0.56	0.53
North Dakota . . . . .	4,377	3,707	18.1	6.8	5.8	439	377	16.4	0.68	0.59
Ohio . . . . .	52,317	50,346	3.9	8.1	7.9	13,666	11,946	14.4	2.11	1.88
Oklahoma . . . . .	27,883	26,683	4.5	12.2	11.9	7,242	6,423	12.8	3.16	2.86
Oregon . . . . .	6,989	6,967	0.3	8.1	8.2	2,886	2,945	— 2.0	3.34	3.47
Pennsylvania . . . . .	71,093	73,381	— 3.1	7.5	7.8	8,027	8,271	— 3.0	0.85	0.89
Rhode Island . . . . .	5,635	5,649	— 0.2	8.3	8.5	692	900	— 23.1	1.02	1.35
South Carolina <sup>b</sup> . . . . .	22,863	20,855	9.6	12.7	11.7					
South Dakota . . . . .	6,589	6,401	2.9	9.7	9.5	686	611	12.3	1.01	0.91
Tennessee . . . . .	33,375	31,505	5.9	13.6	13.0	4,511	4,291	5.1	1.84	1.77
Texas . . . . .	69,738	71,992	— 3.1	13.4	14.1	15,120	15,375	— 1.7	2.90	3.00
Utah . . . . .	5,688	5,208	9.2	11.3	10.5	1,029	837	22.9	2.04	1.69
Vermont . . . . .	2,972	3,086	— 3.7	8.4	8.8	362	378	— 4.2	1.03	1.07
Virginia . . . . .	21,686	21,883	— 0.9	8.7	8.9	3,015	2,907	3.7	1.21	1.18
Washington . . . . .	17,941	17,608	1.9	11.88	11.87	4,126	3,924	5.1	2.73	2.65
West Virginia . . . . .	17,724	18,333	— 3.3	10.8	11.4	1,918	1,885	1.8	1.171	1.173
Wisconsin . . . . .	16,094	15,912	1.1	5.66	5.67	2,401	2,281	5.3	0.84	0.81
Wyoming . . . . .	1,936	2,170	— 10.8	8.4	9.7	688	590	16.6	3.00	2.64

\* A minus sign denotes decrease.

<sup>b</sup> South Carolina grants no divorces, for any cause.

in 1911 was elected to the Assembly, being re-elected for several years, serving as minority leader in 1915. He was appointed Secretary of State by Governor Fielder in 1915, a post made vacant by the death of Joseph H. Crater, and in 1920 was reappointed by Governor Edwards, and again in 1925 by Governor Silzer. During his service in the New Jersey Assembly he was aligned with the anti-Wilson forces, supporting former United States Senator James Smith in his unsuccessful fight for the Senatorship against James E. Martine. Active and successful in many political contests in New Jersey, his last efforts were to secure the consolidation of the seven municipalities in North Hudson County. Largely as a result of his efforts West Hoboken and Union Hill became Union City in 1924.

**MARTINIQUE**, mārtē-nēk'. One of the Lesser Antilles group of the West Indies, forming a colony of France. Area, 385 square miles; population, according to the census of 1921, 244,439. Capital and chief port, Fort-de-France, with a population of 26,399. Sugar, rum, cacao, coffee, tobacco, pineapples, and bananas are the chief products of the colony. In 1925, 40,000 tons of sugar, 3,707,900 gallons of rum, and 281 tons of cocoa beans were exported. The foreign trade of Martinique for the first nine

months of 1926, amounted to approximately \$10,455,270, as compared with \$12,814,050 for the same period of 1925. The colony is administered by a governor and a general council, and an elected municipal council; it sends one senator, two deputies, to the French Parliament.

**MARVIN**, WINTHROP LIPPITT. American steamship official, died February 3. He was born at Newcastle, N. H., May 15, 1863, and graduating from Tufts College in 1884, became a reporter on the *Boston Advertiser* until 1886, when he became connected with the *Boston Journal*, serving as associate editor and chief editorial writer from 1895-1903. He was a member of the Massachusetts Civil Service Commission in 1901-04, and in the latter year became secretary of the U. S. Merchant Marine Commission at Washington. From 1905-09 he was active in connection with ocean shipbuilding and shipowning interests, and in 1909 was treasurer of the National Association of Wool Manufacturers and also secretary-treasurer of the Woolen Goods Exchange. In 1919 he became vice-president and general manager of the American Steamship Association.

**MARYLAND**. POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,449,661. The estimated

population on July 1, 1926, was 1,580,000. The capital is Annapolis.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	554,000	22,049,000	\$14,111,000
	1925	554,000	24,980,000	17,451,000
Wheat,	1926	520,000	11,960,000	15,548,000
	winter 1925	495,000	10,395,000	15,696,000
Hay, tame	1926	398,000	516,000 <sup>a</sup>	10,320,000
	1925	416,000	577,000 <sup>a</sup>	10,963,000
Tobacco	1926	32,000	28,800,000 <sup>b</sup>	6,221,000
	1925	30,000	24,690,000 <sup>b</sup>	4,691,000
Potatoes	1926	41,000	3,690,000	5,904,000
	1925	37,000	2,701,000	5,240,000
Sweet potatoes	1926	11,000	1,815,000	1,361,000
	1925	9,000	1,161,000	1,974,000

<sup>a</sup> tons, <sup>b</sup> pounds.

**MINERAL PRODUCTION.** Coal, the State's leading mineral product, was produced in 1925 to the total quantity of 2,514,000 short tons. Production in 1924 was 2,133,703 short tons, valued at \$4,629,000. Clay products attained a value of \$3,973,074 in 1924, and of \$4,909,098 in 1923. Production of sand and gravel was 2,418,137 short tons in 1924 and 2,044,490 short tons in 1923; in value, \$2,308,813 in 1924 and in 1923 \$2,155,383. Stone, pig iron, slate, lime, talc, feldspar and potash were produced in commercial quantities in 1924. The total value of the State's mineral products, duplications eliminated, amounted to \$18,506,867 in 1924 and \$21,189,542 in 1923.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925, were \$16,395,828. Their per capita rate was \$10.69, as against \$9.47 in 1924 and \$5.49 in 1917. Their total included \$3,212,772 for education, apportioned among minor State divisions. Expenses totaling \$95,339 for public service enterprises, \$1,427,420 for interest on public debt and \$6,170,118 for permanent improvements, added to payments for the maintenance and operation of State departments, made the total of State payments \$24,088,705. For highways was expended the sum of \$9,019,682, of which \$3,519,888 was for maintenance and \$5,499,974 for construction.

Revenue receipts of the State were \$22,813,392, or \$14.88 per capita. They exceeded by \$4,894,805 the total payments except those for permanent improvements, and were \$1,275,313 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 31.3 per cent of the total revenue in 1925, as against 32.4 per cent in 1924 and 43.1 per cent in 1917. Their per capita rate was \$4.66 in 1925, \$4.44 in 1924 and \$3.10 in 1917. Earnings of the general departments and compensation for officials' services furnished 17.6 per cent of the 1925 revenue; business and non-business licenses, 35.7 per cent. State license receipts were derived chiefly from taxes on incorporated companies and on gasoline sales and from the licensing of motor vehicles. The net indebtedness of the State on Sept. 30, 1925, was \$21,803,235, or \$14.22 per capita, as against \$14.94 in 1924 and \$14.34 in 1917. The assessed valuation of property subject to State tax was \$2,060,596,615. The State tax levy was \$5,213,634, or \$3.40 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 1447. No new construction and no abandonment of moment were reported.

**EDUCATION.** The school enrollment in 1926 was stated to be 263,249, that of whites being 214,084 and that of colored pupils 49,165. In the common schools were enrolled 184,148 whites and 46,408 colored, a total of 230,556; in the high schools, 29,936 whites and 2757 colored, a total of 32,693. Current expenses for public education in the State in 1926 amounted to \$22,511,324, capital outlay and debt service included. Salaries of all teachers in the schools averaged \$1348; those of white teachers, \$1432; those of colored teachers, \$914.

**CHARITIES AND CORRECTIONS.** Several State agencies share direction of charitable, health, welfare and penal activities. In the Department of Welfare is the Board of Welfare, successor of the former Board of Prison Control, administering the Maryland Penitentiary and the House of Correction. Under this department are also four State hospitals, a training school and a Board of Mental Hygiene. A second department, the Department of State Charities, includes a Board of State Aid and Charities, commissioned to consider all matters of State aid to public and private institutions, and to enforce welfare laws as to children, notably the law prohibiting separation of babies from mothers during the first six months of life. Under this department are three State tuberculosis sanatoria. The chief State institutions in 1926 were: Maryland Penitentiary, Baltimore; House of Correction, Jessups; Crownsville State Hospital; Eastern Shore State Hospital, Cambridge; Rosewood State Training School, Owings Mills; Spring Grove State Hospital, Catonsville; Springfield State Hospital, Sykesville; Maryland Tuberculosis Sanatorium, at Sanatorium, Md.; Maryland School for Deaf and Dumb, Frederick; Maryland Training School for Boys, Loch Raven; Montrose School for Girls, Woodensburg. About 100 non-State institutions received State cash aid in 1926.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Gov. Albert C. Ritchie, Democratic nominee for reelection, was elected Governor for a third term, commencing Jan. 1, 1927. He defeated by a majority of approximately 20,000 votes the Republican candidate, Mullikin. Millard E. Tydings, Democratic candidate, was elected to the U. S. Senate for the six-year-term. He defeated the incumbent, Sen. Ovington E. Weller, who was the Republican candidate. Shortly before the election the Association Against the Eighteenth Amendment withdrew an indorsement, previously given, of Senator Weller.

The other chief State officers elected November 2, to take office in 1927, were: Attorney General, T. H. Robinson (Rep.) reelected; Comptroller, W. S. Gordy, Jr., (Dem.) reelected.

Fort McHenry near Baltimore, famous for its connection with the writing of the patriotic poem "The Star Spangled Banner," was declared a national monument.

**OFFICERS.** Governor, Albert C. Ritchie; Secretary of State, David C. Winebrenner, 3d.; Treasurer, J. M. Dennis; Auditor, L. M. Milbourne; Comptroller, William S. Gordy, Jr.; Attorney-General, T. H. Robinson; Superintendent of Schools, Albert S. Cook.

**JUDICIARY.** Court of Appeals: Chief Judge, Carroll T. Bond; Associate Judges: John R. Patterson, T. Scott Offutt, Wm. H. Adkins, Francis N. Parke, Hammond Urner, W. M. Digges, D. Lindley Sloan.

**MARYLAND, UNIVERSITY OF.** An institution of higher education at College Park and Baltimore, Md.; founded in 1807. The enrollment for the fall term of 1926 was 3156, distributed as follows: agriculture, 120; arts and sciences, 494; dentistry, 391; education, 127; engineering, 229; graduate school, 78; home economics, 46; pharmacy, 275; law, 439; medicine, 370; nursing, 110. The enrollment for the 1926 summer school, held at College Park, was 477. The faculty in 1926 numbered 450. The total income from appropriations and other receipts amounted to \$2,087,173.16. The library contained 42,089 volumes. During the year progress was made on the construction of a new dining hall and a science building. President, Raymond A. Pearson, M.S., D.Agr., LL.D.

**MASINI, ANGELO.** A celebrated Italian dramatic tenor, died in Forli, September 29. He was born there, in 1843, and received his vocal training, also in his native city, from Gilda Minguzzi. After five years of earnest study he made his debut at Modena, in 1867, as Pollione in Bellini's *Norma*, winning instant success. But he was not satisfied, and after two years of further study he appeared again at Bologna in Donizetti's *Don Sebastiano*. From then on his career was an uninterrupted succession of triumphs through Italy, South America, in Madrid, Vienna and Petrograd (Leningrad). In the last named city he was for many seasons the chief attraction at the Italian Opera, his position there being in many respects similar to that held by Caruso later at the Metropolitan Opera House. He was a close friend of Verdi, of whose works he was an unsurpassed interpreter. Of all the world-famous tenors he is the only one who never was heard on the operatic stage of any English speaking country. In London he appeared only once, in 1875, at the special request of Verdi, when the latter conducted the English premiere of his *Requiem*. Masini retired about 1900, devoting himself to scientific agriculture in his native town and to works of charity. By his will he left half a million lire to various institutions in Forli, and the same amount to the Verdi Home for aged musicians in Milan.

**MASON, GEORGE.** DECLARATION OF RIGHTS ANNIVERSARY OF. See CELEBRATIONS.

**MASSACHUSETTS. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 3,852,356. The population by the State census of 1925, was 4,144,205. The estimated population on July 1, 1926, was 4,197,000. The capital is Boston.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	475,000	594,000 "	\$14,197,000
	1925	471,000	628,000 "	14,398,000
Potatoes	1926	18,000	2,015,000	3,627,000
	1925	14,000	1,960,000	4,802,000
Corn	1926	45,000	2,160,000	2,484,000
	1925	43,000	2,150,000	2,865,000
Tobacco	1926	6,500	9,412,000 "	3,294,000
	1925	8,600	10,690,000 "	1,710,000
Cranberries	1926	14,000	430,000 "	2,752,000
	1925	14,000	429,000 "	4,826,000

" tons, " pounds, " barrels.

**MINERAL PRODUCTION.** Stone, the leading mineral product, attained a total production of 1,936,520 tons in 1924, as against 1,788,860 in 1923; in value, \$6,063,048 in 1924 and \$5,794,941 in 1923. Clay products of the State were valued at \$3,859,253 in 1924 and \$4,194,855 in 1923. Lime was produced to the quantity of 195,000 (estimated) short tons in 1925 and 194,402 short tons in 1924; and to the value of \$2,520,000 (estimated) in 1925 and \$2,693,028 in 1924. Sand and gravel and coke were also produced. The total value of the State's mineral products, duplications eliminated, was \$15,725,882 in 1924; in 1923, \$14,781,129.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Nov. 30, 1925, were \$38,552,955. Their per capita rate was \$9.30, as against \$10.29 in 1924 and \$6.64 in 1917. Their total included \$2,178,062 for education, apportioned among the minor State divisions. Expenses totaling \$184,501 for public service enterprises, \$1,754,203 for interest on debt and \$5,699,440 for permanent improvements, added to payments for maintenance and operation of the State departments, made the total of State payments \$46,191,099. For highways was expended the sum of \$9,826,476, of which \$5,872,381 was for maintenance and \$3,954,095 for construction.

Revenue receipts of the State were \$50,655,017, or \$12.22 per capita. They exceeded by \$10,163,358 the total payments except those for permanent improvements, and furthermore, exceeded by \$4,463,918 the total with these included. Excess of receipts was reflected in reduction of debt, purchase of investments and increased cash balances. Property and special taxes formed 49.6 per cent of the total revenue in 1925, as against 54.4 per cent in 1924 and 66.3 per cent in 1917. Their per capita rate was \$6.06 in 1925, \$6.65 in 1924 and \$5.49 in 1917. Earnings of the general departments and compensation for officials' services furnished 6.1 per cent of the 1925 revenue; business and non-business licenses, 25.4 per cent. State license receipts were derived chiefly from taxes on incorporated companies and from the licensing of motor vehicles.

The net indebtedness of the State on Nov. 30, 1925, was \$25,211,217, or \$6.08 per capita, as against \$6.51 in 1924 and \$8.93 in 1917. The assessed valuation of property subject to State tax was \$6,632,755,277. The State tax levy was \$12,000,000, or \$2.90 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 2071. No new construction of moment took place in 1926. Five short lines abandoned by the Boston and Maine had an aggregate length of 32 miles, and 2 lines abandoned by the New York, New Haven and Hartford had a combined length of 5 miles.

**EDUCATION.** Increasing activity of the State normal schools brought their enrollment to the highest total ever attained. It was estimated that owing to the increase in the recent numbers of normal school students the State was in a position to furnish teachers of standard training for all the needs of the public schools. The public elementary and high schools (day-time) of the State had in the school year 1925-1926 an enrollment of 721,702 pupils, the average

membership of the day high schools alone being 121,947. Expenditures for schools in the year were \$59,894,839 for support and \$14,474,287 for outlay.

**CHARITIES AND CORRECTIONS.** The Department of Public Welfare, Richard K. Conant, commissioner in 1926, administers mothers' aid and other forms of State assistance, care of dependent, neglected and delinquent children, supervises housing and private charitable organizations, and has supervision of almshouses. It reported the population of State institutions as being, Dec. 1, 1926, as follows: State Infirmary, Tewksbury, 2451; Hospital School for Crippled and Deformed Children, Canton, 305; Lyman School for Boys, Westborough, 473; Industrial School for Girls, Lancaster, 272; Industrial School for Boys, Shirley, 303.

**LEGISLATION.** There was enacted a motor vehicle liability and security law, to go into effect Jan. 1, 1927. It required all persons applying to register a motor vehicle to meet contingent liability for damage committed, in one of three ways. They might provide a motor vehicle liability insurance policy, a liability bond or a deposit with the highway commission of cash or securities to the value of \$5000.

**POLITICAL AND OTHER EVENTS.** In the general election November 2, Alvan T. Fuller, Governor, was reflected on the Republican ticket. For the unexpired term as U. S. Senator terminating Mar. 3, 1929, David I. Walsh, former Senator, running as Democratic candidate, was elected, defeating the Republican candidate, Senator William M. Butler, who held the place by interim appointment. Senator Butler had the support of President Coolidge, who issued a statement representing his election as desirable to the administration. The approximate lead of Walsh in the popular vote was 55,000 over Butler; that of Fuller, 188,000 over the Democratic candidate, W. A. Gaston.

Other State officers elected November 2 for the ensuing term were: Lieutenant Governor, Frank G. Allen; Secretary, Frederic W. Cook; Treasurer, William S. Youngman; Auditor, Alonzo B. Cook; Attorney General, Arthur K. Reading. A constitutional amendment to provide elective town meetings in corporate towns of more than 6000 was approved at the polls.

Governor Fuller in his annual message to the Legislature urged extensive amendment of the criminal laws, January 6. In the city of Boston, Malcolm E. Nichols, the first Republican mayor since 1909, was inaugurated January 4. After the November election counsel for the Liberal Civic League communicated with Chairman James A. Reed of the U. S. Senate campaign investigation committee, and offered data on alleged excessive campaign expenditures of the Republican State Committee, asserting the liabilities of this committee to have been about \$235,000. Steps were taken late in the year toward the permanent closing of the mills of the Otis Company at Ware, in the early summer of 1927. The officers of the company, dispensing a payroll of approximately \$100,000 a month in Ware, asserted that they could not meet the lower cotton knitting costs of the mills in the South.

A bill was filed with the Massachusetts House of Representatives to provide public funds for advertising the commercial, recreational and industrial advantages of the State. The State

claimed right, in a proceeding before the U. S. Supreme Court, to all lands under the waters of Lakes Ontario and Erie, lying within the bounds of New York State, as riparian owner; likewise to beds of lakes in Western New York. Miss M. S. Donaldson, the first woman to act as presiding officer of the lower house of the legislature, held that position temporarily in February. The policy of giving military training in high schools was opposed by some principals, and formed a topic of controversy. A committee on militarism in education rendered a report June 2, denouncing the practice. The Supreme Court upheld, July 10, the right of the State to tax securities of corporations of other States, held under trust in Massachusetts.

The case of Nicola Sacco and Bartolomeo Vanzetti, under conviction for murder of a paymaster and guard in 1920, and a subject of radical agitation against the American authorities in many countries, came before the State Supreme Court on appeal, January 11. The court, May 12, denied a new trial. Further motion for a new trial adduced an alleged confession made by C. F. Madeiros, then under sentence of execution, as tending to overthrow the case against the two defendants; the withholding of files of the U. S. Department of Justice bearing on the case was represented as indicating a plot on the part of Federal authorities to obtain a conviction. Justice Thayer denied a new trial October 23.

**OFFICERS.** Governor, A. T. Fuller; Lieutenant Governor, F. G. Allen; Secretary of State, F. W. Cook; Treasurer, W. S. Youngman; Auditor, A. B. Cook; Attorney-General, Jay R. Benton; Commissioner of Education, Rayson Smith; Commissioner of Public Welfare, Richard K. Conant.

**JUDICIARY.** Supreme Court: Chief Justice, Arthur Prentice Rugg; Associate Justices: Henry King Braley, John Crawford Crosby, Edward Peter Pierce, James Bernard Carroll, William C. Waite, George A. Sanderson.

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY.** A non-sectarian institution for technical education at Cambridge, Mass.; founded in 1861. The enrollment for the autumn of 1926 was 2671, including 362 graduate and 33 unclassified students. For the summer session the registration was 1470. There were 188 members on the faculty, and 265 others on the staff of the Institute. The productive funds amounted to \$28,009,340.50, and the income for the year to \$2,831,567.73, from various sources, as follows: funds, \$1,526,953.93; student fees, \$955,250.95; miscellaneous, \$349,302.85. The book value of land and buildings in Boston and Cambridge was \$12,620,469.84. The library contained 172,000 volumes. During the year regular four-year courses were established in Aeronautical Engineering and in Building Construction, leading to the degree of Bachelor of Science. President, Samuel Wesley Stratton, D.Eng., D.Sc., Ph.D., LL.D.

**MASSEY, CHESTER D.** Canadian manufacturer and philanthropist, died at Toronto, Canada, June 2. He was born in Haldimand Township, Northumberland, Ontario, Canada, June 17, 1850, and after receiving a common school and business school education, entered the Massey-Harris Company, manufacturers of agricultural implements at Toronto, a firm founded by his father, Hart A. Massey. He became president of



this company in 1901, and was honorary president in 1903. He devoted his life and wealth extensively to religious and educational enterprises. He was chairman of the Massey Foundation which he established, and to the Metropolitan Methodist Church of Toronto, he gave an endowment for the parsonage, and a carillon of bells. He also gave to the village of New Castle, Ontario, the home of his boyhood, a fully equipped community house.

**MASTBAUM, JULES E.** An American moving picture producer, died at Philadelphia, Pa., December 7. He was born in 1872, and graduating from the Philadelphia public schools, and the Wharton School of the University of Pennsylvania, became a buyer for the Milwaukee store of Gimbel Brothers. He came to Philadelphia and, associating himself in the real estate business with Felix Isman, became active in this field. Later he founded the real estate firm of Mastbaum Brothers and Fleisher, and early in the days of the photoplay industry he became an exhibitor, leasing a theatre and showing one-reel pictures. His brother, Stanley, and a third partner acted with him in this enterprise, which gradually developed until there was organized the Motion Picture Company of America, which later developed into the Stanley Company. This company had a phenomenal growth, not only building a number of new theatres in Philadelphia and vicinity, but extending its chain into other states from upper New York to Virginia, and as far west as Ohio. This company also became allied with the Keith vaudeville interests. Mr. Mastbaum was interested in a Rodin Museum, a memorial to the great sculptor, and intended as a gift by him to the City of Philadelphia. He had acquired a vast collection of works of Rodin for this museum, the erection of which it was understood would be continued.

**MATERNITY PROTECTION.** President Coolidge in his annual budget message to Congress expressed himself as in favor of extending the provisions of the Sheppard-Towner Act until 1929. The law, which provided for Federal subsidies to States subscribing for the programme of maternity protection, would expire in 1927, unless its provisions were renewed. In recommending the proposed legislation extending the operation of this law, the President said, however, that it was "with the understanding and hope that the administration of the funds to be provided would be with a view to the gradual withdrawal of the Federal Government from this field, leaving to the States, which have been paid by Federal funds and schooled under Federal supervision, the privilege and duty of maintaining this important work without aid or interference from the Federal Government."

During the fiscal year 1926, 43 states and Hawaii accepted the provisions of the Sheppard-Towner Act. The maximum amounts available from Federal maternal and infancy funds from the 1925 and 1926 appropriations aggregated \$1,201,725.96. The various States accepted from the 1925 appropriation \$935,318.57, and from the 1926 appropriation \$857,796.75.

A conference of the State directors of maternity and infant hygiene was held at the Children's Bureau of the U. S. Department of Labor in January. Prominent obstetricians and pediatricians took part in the programme of the

conference, and discussed such subjects as the relation of statistical studies to maternity and infancy work, the education of public opinion, and a practical state programme in prenatal care. Through the agency of the bureau two educational bulletins have been prepared: *Standards for Physicians Conducting Conferences in Child-Health Centres*, and *Standards of Prenatal Care—An Outline for the Use of Physicians*. The second of these bulletins was used by three medical schools in their class work.

The report of State activities showed that the 43 states and the Territory of Hawaii co-operating under the Federal law held 1945 combined prenatal and child-health conferences, 15,524 child-health conferences, and 2686 prenatal conferences. Examinations were made at these conferences of 10,554 prospective mothers and of 159,244 infants and pre-school children. One hundred and thirty-five combined prenatal and child-health centres were established, as were also 140 child-health centres and 8 prenatal centres.

The statistical division of the Children's Bureau has collected information showing the comparative infant and maternity mortality rates in Europe and in the United States. "Six foreign countries," says the report, "have a lower infant mortality than the United States, according to the rates for 17 countries available for 1923. Foreign statistics for later years are not complete, but the trend of infant mortality in the United States has shown a marked improvement. The provisional rate of 72 announced for the United States birth-registration area for 1925 indicates that the reduction made in 1924 has been maintained."

**MAURITANIA.** A French colony in French West Africa (q.v.), consisting of eight districts: having the status of a colony since Jan. 1, 1921. Area, 347,400 square miles; native population, 284,399, mostly Moorish Mohammedans; European population, about 300. The budget for 1925 was 6,400,431 francs. The colony is under a lieutenant-governor, subject to the governor-general of French West Africa.

**MAURITIUS,** ma-rish'its. An island possession of Great Britain in the Indian Ocean, situated 500 miles east of Madagascar, which, with its dependencies of Rodrigues, Diego Garcia, the St. Brandon group of six islands, and other small islands, forms a colony of the British crown. Area of Mauritius, about 720 square miles; population, according to the census of 1921, 385,074. The estimated population at the end of 1924 was 387,743. Capital, Port Louis, with a population of 53,215 in 1924 (including suburbs). In recent years the greater part of Port Louis has passed from the hands of the Europeans to Asiatic or Chinese hands. The movement of population in 1924 was: Birthrate, 39.6 per thousand (exclusive of Indians); death-rate, 27.5 per thousand (also exclusive of Indians). Primary education is free but not compulsory. At the end of 1924 there were 57 government schools, 93 aided schools, and three technical schools. The average attendance in government schools in 1924 was 9343, in aided schools, 13,283, more than three-fourths of whom were in Roman Catholic schools. In 1924 the exports were valued at £3,485,502 and the imports at £5,094,376. The staple exports are sugar, aloe fibre, and coconut oil. The principal participants in the foreign trade are the United Kingdom,



the British possessions, France, and the islands of Réunion and Madagascar. The registered shipping on Jan. 1, 1925, was 23 vessels of 5612 tons. Vessels entered in 1924, 215 of 487,282 tons; vessels cleared, 210 of 480,927 tons, the greater part of each being British. Railway mileage, 144, of which 24 miles are narrow gauge. There is cable connection with Australia, South Africa, and the islands of Madagascar, Zanzibar, and Réunion. The colony is under a governor aided by an executive council and a council of government, the latter having a minority of elected members. Governor in 1926, Sir Herbert James Read.

**MAYOTTE**, mā-yōt', **AND COMORO ISLANDS**. An archipelago belonging to France and administered by the governor-general of Madagascar. Total area, about 790 square miles; population in 1921, 109,860; in 1925, 119,305. The area of Mayotte is 140 square miles, and the population (1925) about 12,674. In late years there has been a decided tendency to emigrate to Madagascar and Zanzibar. Vanilla is one of the chief products. Others are sugar, cacao, aloes, and perfumes. The chief imports into the islands are cotton fabrics, metals, and rice; the principal exports, hides, sugar, copra, and vanilla.

**MEASLES**. Since measles in private practice is a disease almost without mortality there would appear to be no need of a preventive serum and of wholesale immunization. In founding hospitals on the other hand measles is a grave and much dreaded disease because half the patients may die from terminal bronchopneumonia. Since no microorganism has as yet been found to cause measles we can only make preventive use of the serum of convalescent patients, and this means a crude substance which cannot be standardized. Convalescent serum has been in use off and on for over thirty years and since 1920 a serum prepared by Degwitz has been employed on a large scale. The disease is not invariably prevented, but when it appears runs a mild course. The blood is taken anywhere between the seventh and seventeenth day after convalescence sets in, and is injected into the muscles after the usual precautions. Degwitz claims a prevention of 85 per cent of cases, which is probably exaggerated.

Since 1921 the same principle has been carried out in the Hospital for Contagious Diseases, New York City, for children in the wards who have been exposed to contagion (Park and Freeman, *Journal of the American Medical Association*, August 21). A grant of money by the Metropolitan Life Insurance Co. has made it possible to provide sufficient serum to immunize all of the exposed inmates in the children's institutions of the metropolis under the age of three years. The figures in institutional children were: 11 per cent of those treated developed modified measles and 5 per cent unmodified measles. This means some success in 95 per cent and complete success in 84 per cent. For control purposes the serum was tested in private practice with a less favorable showing. Here no less than 42 per cent developed modified measles while 5 per cent developed the unmodified form. Hence while there was some success in 95 per cent as in the institutions, children complete success was obtained in but 52 per cent. The total number of children who received the immunizing treatment was 970.

**MEAT**. See **LIVESTOCK**.

**MECHANICAL ENGINEERS, AMERICAN SOCIETY OF**. An organization founded in 1880 and incorporated in 1881 under the laws of the State of New York, with the following objects: to promote the arts and sciences, to encourage original research, to foster engineering education, to advance the standards of engineering, to promote the intercourse of engineers among themselves and with allied technologists, and, in coöperation with other engineering societies, to broaden the usefulness of the engineering profession. The Society conducts a broad programme of research and is a member of the American Engineering Standards Committee, the national clearing-house for engineering and industrial standardization. Under the procedure of this committee the Society was engaged in 1926 in twenty-four standardization projects. Other important projects on which it was working were the formulation of test codes for power plants and heat apparatus, and the formulation of standard specifications for the construction of steam boilers. The Society conducts meetings at the headquarters and at the local sections throughout the country. There were sixty-eight of these sections in 1926 and fourteen professional divisions. The publications of the Society include *Mechanical Engineering*, the journal; *Transactions*, the annual volume of papers of permanent value; *The Engineering Index*, an index to the technical press of the world; *Condensed Catalogues of Mechanical Equipment*; the *A. S. M. E. News*, the semi-monthly newspaper; and the *Year Book*. In November, 1926, the membership was about 18,000. Officers for 1926-27 were: president, Charles M. Schwab; vice-presidents, A. G. Christie, W. T. Magruder, Roy V. Wright, H. V. Coes, Charles L. Newcomb, E. O. Eastwood, Edwards R. Fish; managers, John H. Lawrence, Edward A. Muller, Paul Wright, Robert L. Daugherty, William Elmer, Charles E. Gorton, Paul Doty, Ralph E. Flanders, Conrad N. Lauer; treasurer, Erik Oberg; secretary, Calvin W. Rice. Headquarters are located in the Engineering Societies Building, 33 West 39th Street, New York City.

**MECHANICS**. See **PHYSICS**.

**MEDALS, MEMORIAL. See CELEBRATIONS.**

**MEDICAL RESEARCH**. See **ANÆMIA**, **PERNICIOUS**; **APPENDICITIS**; **BOTULISM**; **BUBONIC PLAGUE**; **CANCER**; **DIABETES**; **DIPHTHERIA**; **DYSENTERY**; **EPILEPSY**; **ERYSIPELAS**; **GALL STONE DISEASE**; **GOITRE**; **HEART DISEASE**; **HIGH BLOOD PRESSURE**; **HYDROPHOBIA**; **INFANTILE PARALYSIS**; **INFLUENZA**; **INSANITY**; **MEASLES**; **MENINGITIS**; **PELLAGRA**; **PNEUMONIA**; **PUERPERAL ECLAMPSIA**; **RICKETS**; **SCARLET FEVER**; **SMALL POX AND VACCINATION**; **TUBERCULOSIS**; **TULARÆMIA**; **TYPHOID FEVER**; **TYPHUS FEVER**; **YELLOW FEVER**.

**MEDICINE AND SURGERY**. The subjects considered in the present YEAR BOOK are of medical rather than surgical interest and this is the general rule rather than the exception for the majority of the great social maladies have only an incidental surgical importance. One of the most far reaching surgical subjects of the day is that which involves the surgical division of the sympathetic nervous system in some one of its anatomical relationships for the cure or relief of various obstinate affections which are not amenable to ordinary therapeutic resources. Opinions differed notably among surgeons as to immediate and end results of

these operations and the amount of harm they may incidentally bring about, but there was a consensus of opinion among the majority that these operations were devoid of a sound theoretic or physiological basis and that it is far too soon to lay down the proper indications and technic. Among the diseases alleged to be benefited by these operations are angina pectoris, various diseases of the extremities, and the rigid spinal paralyses.

Among the acute contagious diseases the interest still centred about scarlet fever and diphtheria, and among surgical affections those of the gall bladder were chiefly conspicuous, because of the great activity in the new method of diagnosis by the Röntgen rays and of the constantly increasing use of the so-called method of non-surgical drainage in which the duodenal bucket and sound are employed both for diagnosis and treatment.

Study of abnormal psychology and psychoanalysis continued to show the omnipresent tendency of mankind to regress to more primitive and infantile mentality, not only as to psychopathy and insanity but in the daily life of the people, their outlook on life, their recreations, their politico-religious beliefs, their preference for the pseudo-sciences and indifference and distrust toward science itself. See articles listed above under MEDICAL RESEARCH; PSYCHO-ANALYSIS; PSYCHOLOGY.

**MEGATA, BARON TANETARO.** Japanese Government official and financial adviser, died in Tokyo, September 10. He was born in Japan in 1851, two years before Commodore Perry entered Tokyo Bay, and thus saw his nation pass through the most stirring times from feudalism to its wholesale adoption of Western forms of civilization. He was one of the first, if not actually the first, of the students sent by the Imperial Government to the United States, and he was the first Japanese to graduate from an American University, being a member of the class of 1874 at Harvard. Returning to Japan he took office in the Department of Education, later transferring his energies to law which he practiced in the Tokyo and Yokohama courts. He then became interested in finance and the stabilization of currency, and about 1880 he joined the staff of the Treasury as adviser in financial matters. This post he held until 1904, and after the Russo-Japanese War he was appointed financial adviser to the Korean Government. He was made Baron in 1907 and later took a seat in the Japanese House of Peers. His services were further recognized by his being given a seat on the Privy Council. Some time before his death he was sent to the United States, representing Japan on a Government mission.

**MELTON, WILLIAM DAVIS.** President of the University of South Carolina, died on May 3. He was born near Lewis Turnout, Chester County, S. C., on May 26, 1868, and after graduating from the University of Virginia in 1890 received his degree of LL.B. at the University of South Carolina in 1892. He began the practice of law at Chester, S. C., but in 1893 he moved to Columbia, and became a member of the firm of Melton and Belser. He was alderman, serving as chairman of the ways and means committee of the City of Columbia (1900-06), from 1910 to 1919 he was chairman of the State Board of Law Examiners. In 1922 he received

the degree of LL.D. from the University of South Carolina and on July 1 of that year he became its president. In 1922 he published *Our Country, Its Foundations, Its Problems and Its Future*.

**MEMEL.** See LITHUANIA.

**MENINGITIS.** It was noted in 1926 that there had been no epidemic of epidemic meningitis in the New York City area for about sixteen years, but during this period 654 sporadic cases had been reported to the City Department of Health. The great majority of individuals seem to possess a natural immunity from this infectious disease, the cause of which is invariably the organism known as the meningo-coccus. No diagnosis is ever made unless the latter is found by culture in the cerebro-spinal fluid. The majority of victims are infants and young children. During the period covered there was so little tendency to spread that only fourteen times did more than one case occur in a family. The report covering the disease in question is published in the *Journal of the American Medical Association* for Dec. 11, 1926, by Drs. Neal, Jackson and Applebaum of the Health Department, and the greatest interest is attached to the treatment and the after effects of the disease. The mortality for the entire series was a shade under 30 per cent, this figure being swelled by the high mortality of the first year of life which was about 45 per cent. In some of the more advanced years even in children it went as low as 20 per cent. The treatment practiced was conservative in character. It is true that some phenomenal results have followed heroic treatment, but study of many epidemics does not show superiority over the conservative plan but quite the reverse. By conservative treatment the authors refer to one intra-spinal injection of serum in 24 hours while the radical treatment may involve one intra-spinal injection every eight hours fortified by intra-venous and intra-muscular injections.

**MENTAL TESTS.** See PSYCHOLOGY, under *Mental Measurement*.

**MERCIER, DESIRÉ JOSEPH, CARDINAL.** Primate of the Roman Catholic Church in Belgium, a leading figure in the World War, died January 23, in Belgium. He was born at Braine l'Alleud, Belgium, in 1851, and was educated at Malines, Paris, and Leipzig, becoming a priest in 1874. He took the degree of licentiate in theology at the University of Louvain in 1877, and in that year was made professor of scholastic philosophy at the Lesser Seminary in Malines. This appointment he held until 1882, by which time he had demonstrated his belief in the supremacy of the philosophy of Aquinas, and was appointed to the chair in Aquinas' Philosophy, founded at Rome by Pope Leo XIII. At the same time he was honored by the University of Louvain by appointment to the newly founded Chair of Scholastic Philosophy. He maintained his connection with the University of Louvain uninterruptedly until 1906, when he was made Archbishop of Malines. He was consecrated Primate of Belgium and in the following year, (1907), he was made Cardinal. During this period he had many other activities, and one of the most important was his founding, in 1894, the *Revue Néo-Scholastique*, of which he remained editor until 1906. His most important work, *Les Origines de la Psychologie Contemporaine*, appeared in 1897, and although he wrote much

thereafter, it is by *Les Origines* that students and philosophers will remember him. He was also founder of the Institute of Philosophy.

It was on account of his great and brave stand against the invading Germans in 1914, that he became an international figure and commanded unusual respect and admiration. In October, 1914, when M. Max, Burgomaster of Brussels, was deported and King Albert was separated from his subjects, Cardinal Mercier was left alone in the country as the spokesman of the people. In his famous pastoral letter of Christmas, 1914, he exhorted the Belgians to defend their rights, and he condemned the Germans for their wanton violation of international law and the laws of humanity. He said that the whole duty of Belgians in such times of stress might be summed up in the two words, patriotism and endurance. He was accused by Von Bissing, the German military governor, of indulging in "political propaganda calculated to turn the heads of the mob," and in addition he was ordered not to leave his residence at Malines. His masterly reply to the effusion of Von Bissing was probably his best war effort. In it he insisted that there was nothing political in his actions, that he was engaged in the spiritual work of looking after his people, and if his logic and reason seemed to point the way to final deliverance for the Allies, he maintained the right to comfort his people with the pronouncement of that assurance. At this utterance the Germans were furious but powerless, being forced to content themselves with ordering his restraint. The Cardinal continued to make the boldest possible use of his ecclesiastical authority, and in this way stimulated the independent spirit of the Belgian nation through the entire period of the German occupation. There is no doubt that he, more than anyone else, held up the courage of his people under German tyranny.

After the War he turned his attention to the unification of the Christian churches, an ideal which was never long from his thoughts. He made several journeys abroad in connection with the Conferences which had been arranged between the leaders of the Anglican, Protestant Episcopal and other churches and the Roman Catholic representatives at whose head he was. As in the case of his War activities, the Pope added his blessing to these efforts. Cardinal Mercier visited the United States in 1919, to express the thanks of the Belgian people, arriving in New York on September 9. Among his published works, besides the one mentioned, are the following: *Critériologie Métaphysique Générale*; *A Manual of Modern Scholastic Philosophy*, (1917); *A Mes Séminaristes*; *Retraite Pastorale*; and his mystical work, *La Vie Intérieure*.

**MERCURY**; See QUICKSILVER.

**MERCURY BOILERS**. See BOILERS.

**MERRIMAN**, JOHN XAVIER. South African statesman, died on August 3. He was born in 1841, at Street, Somersetshire, England, and was educated at Rondebosch Diocesan College, at Radley, near Oxford. He went to South Africa in 1849 and again in 1861. He first entered the political life of the Cape Colony in 1869. In 1875 he joined the Moltenus Ministry remaining therein until 1878. He was a member of the Scanlen Government, 1881-84, and for these two periods, (1875-78 and 1881-84), he was Commissioner of Crown Lands. For the period 1890-93 he was Treasurer General to the Government,

and he was a member of the Cape Jamieson Raid Committee for which he drew up the official report. In 1898-1900 he was again appointed Treasurer General, and during the years 1908-10 he was both Prime Minister and Treasurer. He was made a Privy Councillor in 1909 and from 1910 till his death he was a member of the Legislative Assembly of the Union of South Africa. He was later elected a member of the Cape Parliament for Namaqualand, then he served in the same capacity for the Wodehouse district, and finally for Victoria West. He was also a member of the National Convention for the Union of South Africa.

**MERTEN**, REAR ADMIRAL (PASHA). A German naval officer who directed the artillery operations for the Turks during the World War, died April 12. He was born in 1857 in West Prussia and entered the German navy at the age of 18, after a rigorous schooling at the gymnasium of Königsberg. Here he advanced rapidly and soon received his own ship, the *Albatross*, used for naval engineering in the North Sea. He later advanced to the post of resident commander at Cuxhaven, at Heligoland, and at Bremerhaven. During his 37 years of service he was also commander of the Navy Yard at Kiel and inspector general at Wilhelmshaven. In 1912 he retired, but was recalled to service in 1914, when he became naval adviser to the Sultan of Turkey during the allied attack on the Dardanelles.

**MESOPOTAMIA**, IRAK or IRAQ. A territory under British mandate, in Asia. It comprises the region on the Tigris and Euphrates Rivers between Persia and Northern Arabia; formerly consisting of the vilayets of Bagdad, Basra, and Mosul in the Turkish Empire; conquered by British and Indian troops during the World War and recognized afterwards as an independent state to be placed under a mandatory power (Great Britain.)

**AREA AND POPULATION**. The area is given at 143,250 square miles; population, according to the census of 1920, 2,849,282, distributed as follows among the respective divisions: Bagdad, 1,360,304; Basra, 785,000; Mosul, 703,378. The inhabitants are mainly Mohammedan and are divided among the two Mohammedan sects as follows: Shiites 1,494,015; Sunnites, 1,146,685. The Jews in 1920 numbered 87,488 and the Christians, 78,792. The chief seaport is Basra on the Persian Gulf.

**EDUCATION**. In 1925 there were 21,755 pupils in 233 government schools and 12,900 pupils in 45 private schools. During 1926 construction was proceeding on the University of Bagdad.

**PRODUCTION, ETC.** Although its oil deposits have marked it as a region of international importance, it has other valuable resources, particularly its rich soil, which has great possibilities under cultivation. Wheat, barley, cotton, dates, rice, and groundnuts are the chief products. The exceptionally cold winter of 1924-25 and the lack of rain during 1925 made that year a disastrous one in many respects for agriculture, and particularly for the cereal crops. The rain-fed crops failed completely, and the northern districts suffered severely from locusts, with the result that prices of wheat and barley rose to nearly double those of the preceding year. Grain imports were necessary from India, although formerly there were excess crops of these grains for export. The severe

cold and lack of pasturage also caused a mortality of 40 to 60 per cent in livestock, and affected somewhat the quality of wool exported. The cotton production was 2000 bales and the date crop increased to 135,000 tons as compared with 105,000 in 1921-22. Industrially Mesopotamia is very little developed, such activity being confined mainly to a few ice plants and other small industries in the chief cities. The petroleum industry, however, as yet in its earliest stages, promises a rapid development. There are two known petroleum-bearing regions in Irak, the Mosul area in the north along the Tigris River and the Kirkuk-to-Khannaqin area in the east of the mountains of the Persian border. Some asphalt deposits also are found near Hit, on the Euphrates. Production of oil on a commercial basis has not begun as yet although several wide surveys were under way in 1926.

COMMERCE. Mesopotamia's chief commercial importance is as a medium for transit trade to and from Persia. Great Britain easily leads among the countries exporting to Irak, with India a close second, but Persia is so much more important as a purchaser of exports and re-exports that the total volume of trade with Persia is considerably above that with any other country. The greater part of British and Indian exports to Irak are in reality transit shipments to Persia. The United States, although exporting very little to Irak, nevertheless, as a purchaser from Irak moved in 1924-25 from third place to second, surpassing Great Britain as a customer.

FINANCE. After two successive years of surplus the budget for the year 1925-26 showed a slight deficit; which was met, after considerable delay, from the existing treasury surplus. Of the total expenditures for the year approximately 40 per cent were consumed by the Ministry of Defense and the Irak Police. The service on the public debt constituted about seven per cent of the expenditures, and the combined expenditures for the departments of the interior, public works, and agriculture accounted for 14 per cent. Expenditures for the port of Basra and the railways department are balanced by estimated receipts from the same sources. Revenues derived approximately 45 per cent of their total from customs and excise dues, a large proportion of which comes from the Persian transit trade through Bagdad. Land revenues and the income from government property constitute about 28 per cent of the total revenues. The budgetary situation for the past five years reduced to dollars is summarized in the following table:

IRAQ BUDGETS FOR FIVE FISCAL YEARS

Fiscal year beginning April 1	Revenues	Expenditures	Surplus (+) or deficit (-)
	Dollars	Dollars	Dollars
1921.....	13,844,160	14,997,840	-1,153,680
1922.....	13,651,500	13,766,460	-114,960
1923.....	15,808,880	13,008,980	+2,799,900
1924.....	16,525,000	14,618,800	+1,906,200
1925.....	19,345,616	19,551,633	-206,017

COMMUNICATIONS. Railroad construction, under the supervision of British advisers to the Irak government, had advanced on both sides of the two Bagdad-to-Mosul lines, reaching Sharqat on the direct route along the west bank of the Tigris, and Kirkuk on the longer, or east bank, route. The latter line will open up a large productive area around Kirkuk, which will add considerably to the available export resources

of the country. The direct railroad from Bagdad to Sharqat, following the Tigris, is part of the pre-war "Bagdad Railroad" plan, but the Sharqat-Mosul-Nisibin section had not yet been completed. A further piece of construction under consideration is a 12-mile extension from Khannaqin to the Persian border, which will facilitate transshipment of Persian goods.

GOVERNMENT. In 1921 the Emir Faisal was proclaimed King by the British High Commissioner, and on Oct. 11, 1922, a treaty was formed between the British and Irak governments in which the latter agreed to be guided by British advice in important matters affecting financial operations and international relations. According to the constitution of Oct. 31, 1923, the executive power is vested in the King as sovereign, but edicts had to be signed by the prime minister and one or more of the other ministers. Legislative power is vested in a senate of 20 members appointed by the king and a chamber of deputies of 88 elected members. The ministry was responsible to the chamber of deputies. The cabinet as appointed on June 26, 1925, was as follows: Premier and Minister of Foreign Affairs, Abdul Muhsin Beg al Ga'dun; Interior, Hikmat Beg al Gulaiman; Defense, Gabih Beg Nashat; Finance, Rauf Beg al Chadirji; Justice, Naji Beg al Guwaidi; Works, Gabih Beg Nashat; Education, 'Abdul Husain Chalabi; Auqaf, Handi Beg al Pachahji.

HISTORY. The chief event in the year as far as Mesopotamia was concerned was the settlement of the troublesome Mosul boundary dispute. At the beginning of the year the Council of the League of Nations, having stated on Dec. 10, 1925, that if Mosul was to remain with Mesopotamia, Great Britain would have to extend her relations with Irak for a longer period of time, negotiations were carried out with this end in view and an agreement was drawn up by which the relations were extended for a period not to exceed twenty-five years and to terminate whenever Mesopotamia entered the League of Nations. King Faisal in commenting upon the agreement stated "I see no reason why Irak should not have an amicable alliance with England, not only for twenty-five years, but for any length of time which may be necessary, provided always that the dignity of the nation is preserved, and that there are no stipulations which would retard the progress of the Iraqi people." On March 11, the League Council announced that the disputed territory was awarded to Great Britain inasmuch as she had complied with the demands of the Council in December, 1925. Turkey maintained that the decision was not binding on her.

Shortly after this, however, Turkey evinced a desire to settle the matter directly with Great Britain through diplomatic negotiations. The result was an agreement signed by the British ambassador, Sir Ronald Lindsay, and Tewfik Rushdi Bey, the Turkish Foreign Minister. The essential features of the settlement was the acceptance by Turkey of the so-called Brussels Line (see YEAR BOOK for 1924) which was originally laid down by the League of Nations, and the agreement of the part of Great Britain to give Turkey ten per cent of all revenue obtained from the exploitation of the oil fields of Irak for a period of twenty-five years. Other provisions was the recognition of the inviolability of the frontier line and the establishment of a

neutral zone in which the formation of marauding bands was forbidden. Persons inhabiting the districts recognized as Irak were to have the privilege of choosing Turkish nationality within a given time according to the Treaty of Lausanne.

In July King Faisal left his country for a trip to Europe and left one of his brothers in charge of the government. The King was accompanied on his trip by Naji Beg al Suwaidi, Minister of Justice. Shortly after his return he was faced with a crisis in his government. Rashid Ali Beg was elected president of the chamber on November 1, defeating a government candidate. The ministry promptly resigned and after a three weeks' interval King Faisal was able to form a cabinet only by recalling the Irak representative from London. The cabinet as constructed on November 21, was as follows: Prime Minister and Minister of Foreign Affairs, General Jafur Pascha el Askari; Finance, General Yasim Pascha el Hashimi; Interior, Rashid ali Beg el Gilani; Justice, Rauf Beg el Shaldirshi; Communications and Public Works, Amin Beg Zaki; Education, Seyyid Sheikh Abdul Mahdi el Muntafiq; Pious Foundations, Amin Ali Beg Bashayan; Defense, General Nuri Pascha Said. The new government announced that it intended to inaugurate compulsory military service, improve foreign relations, particularly with other nations, improve education, and aid agricultural development by furthering new schemes for irrigation.

**MESSEL MEDAL.** See CHEMISTRY, INDUSTRIAL under *Medals*.

**METALLURGY.** Much technical progress was made during 1926 in the recovery of metals from their ores, advances being particularly significant in the fields of concentration by flotation, and in hydrometallurgy. Pyrometallurgy has become somewhat more standardized, and except for certain special processes in course of development, changes have been only in details of equipment and process. Generally speaking, it may be said that costs of production of most of the non-ferrous metals in 1926 were no higher than before the World War, in spite of increased costs of commodities and labor, and the enforced mining of lower-grade ores. Copper, in fact, no doubt was being won at a cost substantially below pre-war costs. Improved equipment and processes, and the large scale on which many operations are conducted, are responsible. As a result of reasonable costs of production, and therefore prices, of most metals, consumption has continued at an enormous rate, in many instances being beyond the peak reached during the World War.

**ORE DRESSING.** Three 60-inch gyratory crushers were built during the last year, two of them for the Chile Copper Co., these being the largest crushers ever constructed, and weighing about a million pounds apiece. Each of them will receive lumps up to 5 feet in diameter, and will crush 2500 tons an hour to a 12-inch product. A combination of gyratory and disk crusher, of new design, was tried out with promising results in Missouri.

In cylindrical grinding mills, the field was well divided between the use of balls and rods for crushing media, some plants installing one type and some the other, for similar work. Rods were thought to give a somewhat more homogeneous product, with a smaller proportion

of excessively fine material. Square blocks instead of spheres have given satisfaction at one or two plants without arousing much enthusiasm at others. Hexagonal rods have also been tried, but it has been found that they quickly wear to the cylindrical form. A step form of end liners for grinding mills, a type known as the Williamson mill, has been experimented with at the Inspiration plant, in Arizona, and put on the market. Rubber linings, mentioned in the 1925 YEAR BOOK, have not yet become popular; they seem to be giving satisfaction where used, but little was heard of them.

The Fahrenwald constant-density classifier has been generally accepted, and was probably the most efficient form of hydraulic classifier yet developed. At least two makes of combined thickening and filtering equipment have been placed on the market, and have given good results where used.

Selective flotation processes have made further progress so that it was possible to take the most complex sulphide ore and make several commercial concentrates, such as a lead product with only a little zinc, a zinc concentrate with but a small amount of lead, and in some cases an important middling or iron product. In concentrating copper-iron sulphide ores, great success was had in depressing the iron sulphide into the tailing, thus improving the grade of the copper concentrate. Sodium cyanide and sodium sulphite have proved useful in inhibiting the flotation of zinc, in lead-zinc ores; copper sulphate is then commonly added to the pulp to float the zinc. Many other chemical reagents are used to meet certain conditions. An excellent discussion of the matter is contained in a bulletin entitled *The Trend of Flotation*, published by the Colorado School of Mines, Golden, Colo., at the end of the year.

More has been accomplished in the flotation of oxidized ores also, sulphidizing agents being utilized to alter the surface of the carbonate particles. The Shattuck-Denn mine, in Arizona, is a good example of this class of work. Flotation has become common practice on the lead-zinc ores of the Oklahoma-Kansas-Missouri district, thereby considerably improving recoveries and costs, in this important area.

Improved types of flotation machines have been developed as a result of the clogging of the blankets of pneumatic machines by the alkaline circuits commonly employed. In the MacIntosh machine, a rotating horizontal cylinder, covered with canvas, is used for the introduction of the air; in the Forrester machine, air is introduced through a simple perforated pipe. Considerable savings in power are thereby obtained, through the use of air at a lower pressure.

Flotation litigation had not been entirely cleared up, by the end of 1926, the Magma case not having been settled. Practically all operators, however, had licenses from the Minerals Separation Company.

**HYDROMETALLURGY.** Of outstanding importance during 1926 was the completion of the \$6,000,000 leaching plant for the Inspiration Copper Co., in Arizona, to treat mixed oxide and sulphide ores. An acidified solution of copper and iron sulphates is used as the leaching agent, iron sulphate having a solvent action on copper sulphide, a mineral not attacked much by sulphuric acid. In this respect, the plant is

novel among commercial installations, others requiring roasting of the sulphides to make them amenable to acid leaching. The free acid, of course, is an aid in dissolving the oxidized copper minerals. The presence of ferric iron, which is regenerated during electrolysis, reduces the current efficiency, but this is partly counterbalanced by using a higher current density than is usual. The copper sulphide in the ore will reduce the iron to the ferrous condition, instead of using sulphur dioxide, as at Ajo.

The Bwana M'Kubwa ammonia leaching plant, in Africa, also went into operation towards the end of the year. Ammonia losses were reported higher than expected in the first few months of operation, but difficulties will no doubt be ironed out soon. Heap leaching of copper ores at Bisbee, Ariz., where about 8,500,000 tons of siliceous ore carrying about 0.72 per cent of copper are to be treated, is in progress, with results somewhat better than expectations so far. The leaching cycle is expected to be about six years, in the course of which about 70 per cent of the copper is likely to be recovered. It is precipitated with scrap iron.

Another plant was in process of construction for the leaching and subsequent electrolytic precipitation of zinc, the Bunker Hill & Sullivan Mining & Concentrating Co., Kellogg, Idaho, being the builders. A capacity of 50 tons of zinc per day was planned and the ideas of U. C. Tainton were to be carried out in its design and operation, the chief features being solutions of greater acidity than are usual, higher current densities, and mechanical agitation. The only other electrolytic zinc plant in the United States was that of the Anaconda Copper Mining Co. at Great Falls, Mont., which had been enlarged to a capacity of 150,000 tons a year. The Trail plant, in British Columbia, has also been enlarged. Tainton has also carried out considerable work on an experimental scale looking towards the production of electrolytic lead. A diaphragm cell is used, with evolution and utilization of chlorine. Other lead leaching experiments are being made in the Southwest and in Utah.

The Salt Lake station of the U. S. Bureau of Mines had been working on chloridizing roasting and brine leaching of ores, but this process has had little or no application in the United States since the Tintic Standard plant closed down. However, a new plant was built at Caylloma, Peru, where table and flotation concentrates averaging about 30 per cent sulphur were treated in a Holt-Dern furnace, with subsequent leaching. Bolivian plants also were to adopt the process, and it was likely that the Cerro de Pasco would adopt substantially the same method of treating a large body of low-grade silver ore.

In cyanidation, work on the regeneration of cyanide has been carried further, with successful results, particularly at Pachuca and at Tonopah. Flotation has been generally adopted in the Kirkland Lake district of Ontario, for the recovery of gold tellurides, which are then oxidized and added to the cyanide mill circuit. Continuous filters have become generally accepted as the best means for final dewatering.

**Pyrometallurgy.** Copper smelting remains much as it was in 1925, being pretty well standardized, with roasting of copper concentrates in multiple-hearth furnaces, smelting of

the calcine in powdered-coal or oil-fired reverberatories, and converting of the matte in basic-lined converters. The Carson patent situation had not been settled so most smelters were keeping their reverberatory practice very quiet, and continued their efforts to avoid infringement. Some improvements over the old practice might result from new methods of charging and construction that were being developed.

The Copper Queen smelter at Douglas, Ariz., was carrying on an expensive programme of remodeling and enlargement. The roasting furnaces were to have ten hearths instead of the conventional eight, and were to be superposed, along with the waste-heat boilers, above the reverberatories. A lead blast furnace was also being constructed, the first in Arizona. A copper smelter, embodying reverberatory smelting, was in course of construction in the Rouyn district, in Quebec, to treat the copper-gold ores of the Horne mine, as well as custom ores. The Mason Valley smelter, at Wabuska, Nev., resumed operations during the year. This was a small blast furnace-plant, one of the few such that were left in North America.

Many enlargements were made in lead-smelting plants to handle the record tonnage that was being produced. No important changes in design were made, however. Double sintering had become commonly accepted, preparatory to blast-furnace smelting. The Harris process of refining was further developed at the American Smelting & Refining Co.'s plant at Perth Amboy, N. J., the entire lead refinery there having been remodeled and many improvements in details having been made in the process as originally proposed in England.

In the metallurgy of zinc, the chief item of interest is perhaps the development of the Coley process in England, the old methods of distillation by the retort process continuing practically unchanged, though inefficient in many ways. In the Coley process, the ore is ground to pass a  $\frac{1}{4}$ -inch mesh screen, and is pre-heated for a partial roast. It is then fed into a rotating tube about 30 feet long, so inclined and revolved that it takes about three hours for the charge to pass through. Surrounding the tube, which is made of a special heat-resistant alloy, is a brickwork structure provided with a regenerative system for burning producer gas and thus maintaining the high temperature necessary for reducing and volatilizing the zinc. When the ore passing through the tube has been oxidized and is in a porous condition, it is sprayed with a heavy oil which is kept cold until it leaves the nozzle, in order to prevent "cracking," which would diminish its reducing effect. A water-cooled nozzle is employed for this purpose. The temperature in this zone of reduction is said to be no more than 1000 deg. C. The reduced metal immediately volatilizes and is condensed in a water-cooled chamber, the accompanying gases passing on, and the solid residue being in shape for treatment for the recovery of lead, silver, or other byproducts. Carbonate, silicate, and sulphide ores may be treated by this process, a calamine assaying only 19 per cent of zinc having given satisfactory results, it was reported. Among the advantages of this process are continuity of operation; increased recovery (90 to 98 per cent instead of 80 to 88 per cent customarily obtained by the retort process); reduction of

labor costs; reduction of fuel costs; and increased value of the residues. The cost of production is said to be only from one-half to one-third that of retort smelting. The metallurgical principle involved may well be applied to other metals, including the reduction of iron ore.

Aluminum productive capacity was vastly increased by the construction of a plant at Arvida, Quebec, where the electric power available makes possible the ultimate production of something like 200,000 tons of aluminum a year. The customary electric reduction of alumina in a fused electrolyte is employed, though details of the process used have never been published by the Aluminum Co. of America. Another process, known as the Haglund, has been developed in Sweden and has received some publicity. Alumina—the oxide—is thereby made directly in the electric furnace, the iron and silica in the ore being utilized in the manufacture of ferrosilicon as a byproduct.

Nickel production continued by the usual methods familiar to copper smelters. Many improvements in electrolytic refining were made at the Port Colborne plant of the International Nickel Co., so that that branch of the company's activities was greatly enlarged and an electrolytic product that was almost chemically pure was chemically produced.

When the commercial production of sponge iron began to be considered, many thought of it as an aid in the precipitation of copper rather than as a method of producing iron and steel without the use of a blast furnace. However, recent work demonstrated the possibilities in this other direction. The Lorain works of the National Tube Co. are planning to build a million-dollar plant to utilize the Hornsey process. The ore is crushed and charged into a rotary kiln, heated to a definite temperature; the charge then passes to a second rotary kiln where it is mixed with coal for reduction and heated to a higher temperature. In a third rotary kiln, the charge is subjected to a sudden cooling. Thus is produced a practically pure sponge or granular iron without the use of coke or limestone, the final product being brought up to a purity of about 98 per cent by magnetic separation. Should this process be successful, many ores not now of commercial importance might become so.

The School of Mines Experiment Station of the University of Minnesota developed a process that brought about much the same result only the reduction was carried on in retorts. The metallized ore, after reduction with coal at about 1000 deg. C., is pressed into briquets from which it is planned to make pig iron by melting in a reverberatory furnace. Standard practice in ferrous metallurgy changed only in details. The use of byproduct coke from 100 per cent high-volatile coal necessitated some changes in blast-furnace conditions. Enlargement of hearths added considerably to furnace capacity, so that as much as 1000 tons of basic pig a day were being made from all-ore charges. Three sintering plants for the reclamation of flue dust at blast furnaces were built in the United States during 1926.

By far the most important publication of the year was the *Handbook of Non-Ferrous Metallurgy*, with authoritative and up-to-date chapters on all the more important metals, written

by experts, the whole edited by Donald M. Liddell.

**METEOROLOGY.** In any attempt to increase our understanding of weather phenomena, the investigation of the energy mechanism of atmospheric processes is necessarily of fundamental importance; for all meteorological activity depends on the availability and the distribution of different forms of energy. Particular interest therefore attaches to the methods recently perfected by Sir Napier Shaw and his colleagues for adapting the data obtained by aerological soundings to the scientific investigation of the thermodynamics of weather phenomena, and for applying the results in practical work. Instead of plotting pressures, temperatures, etc., against height in the usual way, the data are entered on a temperature-potential-temperature diagram which consists of a groundwork of lines that show graphically what would happen to the condition of dry or of saturated air under continuously decreasing pressure (such as during convectational ascent); the resulting graph is called a tephigram. Then, e.g., any energy that may be available in a column of the atmosphere for producing thunder storms is plainly shown; the stability of any region of the atmosphere is easily found; thermodynamic cycles may be traced out, and their efficiencies determined, and the amount of energy consumed or given out in any adiabatic process calculated; and so on.

**DYNAMICAL METEOROLOGY.** A statement that the wind has a velocity of, say, 30 many meters per second refers to some mean value taken over an interval of several minutes; actually, at any instant, small portions of air are moving faster or slower than this mean, as well as up and down and to and fro, in an irregular, turbulent or gusty manner. These wandering masses carry with them, and cause a diffusion of, momentum (giving rise to "eddy viscosity"), moisture, heat, etc.; the motions of such masses of air are too intricate to be analyzed individually in detail, but their resultant effects can be statistically evaluated and expressed by a coefficient of diffusivity that represents the average rate of transfer of heat, momentum, etc. The value of this coefficient can be found by observation; if the motions of individual molecules are neglected, but all other motions individually taken into account, the coefficient furnishes the values of the coefficients of molecular viscosity, molecular heat-conduction, and so on; if not only molecular motions, but also the mass motions taking place in regions a few meters across, be neglected, the coefficient is many times larger than that corresponding to the neglect of molecular motions only, and it becomes larger still when the region in which details are ignored is extended to a few hundred meters and to several hundred kilometers. That is, the coefficient of diffusivity is a method for taking account of the net effects due to details which individually are ignored, and so of course this coefficient increases in size and importance as the things neglected include, in succession, molecular motions, gusts, squalls, and finally cyclones. The coefficient also varies with height, mean wind speed, nature of topography, etc. Many important studies of the coefficient of diffusivity, of turbulent motions in the atmosphere, and of the rôle these play in various phenomena (such as thermal convection) are



being carried out by L. F. Richardson, C. G. Rossby, and others.

Important advances in the mathematical theory of atmospheric circulation have recently been effected also, especially by H. Jeffreys.

**MISCELLANEOUS.** The great difficulty of finding exact and complete solutions of meteorological problems by the rigorous methods of mathematical physics has led, among other things, to the extensive use of the methods of mathematical statistics in the effort to discover laws of atmospheric phenomena, particularly such as might be useful in improving weather forecasts; a great volume of such statistical work is done every year.

The collection of aërological and climatological statistics from all quarters of the globe, the establishment of new meteorological observing stations, the development of instruments, and the extension and improvement of means for disseminating daily meteorological information and advices, also go on apace; while the utilization of meteorological data and weather forecasts in all fields of human activity continues to increase and to lead to continual extension of the services rendered by government meteorological bureaus.

**HURRICANES.** An unusual amount of destruction was occasioned by West Indian hurricanes in 1926. The hurricane of July 22-29 did a great deal of damage in the West Indies and along the east coast of Florida, but did not cause much loss of life; the wind velocity reached 135 miles per hour at Nassau. On September 14-16, four tropical cyclones, three of hurricane intensity, were simultaneously in progress over the North Atlantic, an event recorded but once before (in September, 1893). A hurricane first observed about 200 miles north-east of St. Kitts, W. I., on September 14, subsequently developed into the most severe tropical storm ever known to reach the coast of the United States; its center, with the attendant temporary calm, passed directly over Miami the morning of September 18, the barometer sinking to 27.61 inches—the lowest sea-level pressure ever recorded in this country; the storm then advanced northwest, passing near Pensacola and Mobile, and finally dissipated over Texas; the damage caused by this hurricane was enormous, and the loss of life has been exceeded only three times. Still another hurricane, originating north of Colon about October 16, passed directly over Havana on October 20, causing immense damage and loss of life in Cuba, then skirted the east Florida coast, passed centrally over Bermuda, and went off into the Atlantic. Typhoons in the Far East likewise occasioned much damage and loss of life.

The Alaskan winter of 1925-26 was the mildest on record, due to abnormal and persistent low pressure there and over the northeastern North Pacific.

**NECROLOGY.** Col. Francis S. Chaves, Director of the Meteorological Service of the Azores, July 23; Albert J. Monné, ex-official of the Netherlands Meteorological Institute, October 16; Ernst Biese, Director of the Meteorological Observatory, Helsingfors.

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*tory* (Cambridge, Eng.); C. E. P. Brooks, *Climate Through the Ages* (London); W. Schmidt, *Der Massenaustausch in freier Luft* (Hamburg); I. M. Cline, *Tropical Cyclones* (New York); A. Defant, *Wetter und Wettervorhersage*, 2nd ed. (Leipzig); W. G. Rotmistroff, *Das Wesen der Dürre* (Dresden).

**METHODIST, WESLEYAN CONNECTION OF AMERICA.** A branch of the Methodist Episcopal Church, organized May 31, 1843, at Utica, N. Y., the outgrowth of controversy over what was termed "liberty of testimony and freedom of discussion," and was also a protest against the exercise of ecclesiastical authority. The purpose of the new organization was a church that should be anti-slavery and non-Episcopal. In doctrine the church is in accord with the Methodist bodies generally. In 1926 the branch comprised 23 annual conferences, with mission conferences in India and Africa; its General Conference meets quadrennially and was to convene in June, 1927. Statistics for 1926 give 675 churches, 666 ministers, 21,000 church members, 521 Sunday schools with an enrollment of 40,100. The Home work was being pushed aggressively and three new conferences were organized, one of them on the Pacific Coast. Colleges maintained by the church are: Central College, Central, S. C.; Houghton College, Houghton, N. Y.; Marion College, Marion, Ind.; and Miltonvale College, Miltonvale, Kan. *The Wesleyan Methodist* (weekly), Syracuse, N. Y., is the official organ of the church. Headquarters are at 330 East Onondaga Street, Syracuse, N. Y.

**METHODIST EPISCOPAL CHURCH.** The original Methodist Church in America, begun in Georgia in 1735 by John and Charles Wesley upon the invitation of General Oglethorpe. The first annual conference in America was held at Philadelphia in 1773, and in 1784 the church was set apart independently from the British Church. It has retained the Wesleyan doctrine. It is directed by a board of trustees appointed by and amenable to the General Conference. In 1926 the full and preparatory membership of the Church in the United States and foreign countries, including non-resident, inactive, and conference members, amounted to 5,173,141, according to statistics given in the *Methodist Year Book* of 1927. There were 28,656 churches, with an estimated valuation of \$397,609,220; a total of 19,104 traveling preachers, of whom 1801 were on trial; local preachers numbered 14,556; 34,370 Sunday schools were conducted by a teaching staff of 407,182, and had a total enrollment of 4,624,554. The foregoing statistics include affiliations of the Methodist Episcopal Church in the United States, Denmark, Finland, Korea, China, Norway, Germany, Sweden, Switzerland, Italy, Mexico, Philippine Islands, and several South American countries. The denomination maintains missions in Austria, Bulgaria, Jugo-Slavia, Africa, Netherlands, Indies, Porto Rico, Rhodesia, South Florida, France, Russia, Alaska, Hungary, Utah, Hawaii, and among the Southern Swedish, Pacific Swedish, Latin American, Pacific Chinese and Japanese, Baltic and South American peoples. On Apr. 25, 1926 the first unit of the Mexican Church and Community Centre was opened, and at the end of the year had a membership of over 300.

The missionary work of the denomination is conducted by a Board of Foreign Missions and a Woman's Foreign Missionary Society. In 1926



there were 1187 missionaries of the Foreign Missions Board and 738 missionaries of the Woman's Society; ordained native preachers numbered 3799, and church membership was 661,400 in 2990 churches. There were 29,940 adults and 29,948 children baptized.

The Epworth League is the largest society of the denomination. In 1926 there were reported at the spring and fall conferences and missions 480,291 senior members and 194,185 junior members. In the United States alone, the senior membership was 431,221, and the junior membership 167,537. In the domestic conferences there was reported a total membership of 4,183,863 in the Church.

The educational interests of the denomination are conducted by a Board of Education which comprises the following departments: Schools and Colleges; Negro Education; Church Schools; and Epworth League. It sponsored throughout the year 1926, 135 educational institutions, 46 of which were colleges and universities, 41 professional and graduate schools, 30 secondary schools, and 18 colored; in addition to 144 summer schools for teachers and others interested in religious education. The student enrollment in 1925 was 70,733. Productive funds of the various educational institutions amounted to \$47,000,000, and the value of grounds, buildings, equipment, etc., was \$48,000,000.

During the year women were ordained as elders for the first time in the history of the

church. The Board of Home Missions maintains the Good Will Industries in 25 cities to give the poor of those cities a chance to help themselves. In 1926 there were 79 Methodist Episcopal hospitals in the United States, with 7532 beds. These trained 2400 under-graduate nurses during the year, and had a staff of 1600 physicians and surgeons. There were 44 homes for the aged, caring for 72,018; 45 children's homes, caring for 3541 children; 17 homes for young men and young women; and 11 training schools. The Methodist Book Concern opened a large new manufacturing plant at Dobbs Ferry, N. Y., in 1926. Publications during the year included *The Story of Methodism*; *The Methodist Year Book*; *The Minutes of the Annual Conferences of the Methodist Episcopal Church*; *The Methodist Review* (bi-monthly); the *Christian Advocate* (weekly), published in 9 different cities; the *Epworth Herald* (weekly); and *Der Christliche Apologete* (a German weekly).

In 1926 there was raised for building and improvement of churches \$20,134,180, and there was paid on the indebtedness of property \$6,549,169, and for current expenses of churches \$16,682,163. The General Conferences expended for world service, such as missions, education, American Bible Society, etc., \$8,546,565. There was received for the Children's Day Fund \$168,536, for the Women's Foreign Missions Board, \$2,230,449, and for the Woman's Home Missions Society, \$1,766,817. There was raised for General Conference expenses \$57,214, for ministerial

## GENERAL STATISTICS OF METHODISM, 1926

Denomination	Minist- ters	Lay preach- ers	Church members and proba- tioners	Sunday schools	Officers and teachers	Sunday school scholars	Churches, etc.
WESLEYAN METHODIST:							
Great Britain . . . . .	2,451	18,850	519,301	7,321	119,881	830,818	8,591*
Ireland . . . . .	231	603	29,322	330	2,205	23,011	412
Foreign Missions . . . . .	753	10,661	272,256	2,870	10,508	162,912	5,084
French Conference . . . . .	28	64	1,759	24	89	671	57
South African Conference . . . . .	272	5,761	167,975	1,010	3,313	46,525	4,630
PRIMITIVE METHODISTS . . . . .	1,089	13,636	219,385	3,920	55,125	398,584	4,566
UNITED METHODIST CHURCH . . . . .	714	4,708	147,591	2,074	37,919	246,832	2,221
WESLEYAN REFORM UNION . . . . .	26	481	9,819	196	2,436	23,214	203
INDEPENDENT METHODIST CHURCHES . . . . .	382	...	10,531	165	3,235	24,611	165
AUSTRALASIAN METHODIST CHURCH . . . . .	1,275	8,036	166,101	3,511	30,916	203,431	3,752
NEW ZEALAND METHODIST CHURCH <sup>b</sup> . . . . .	206	835	28,731	446	3,125	31,727	1,030
UNITED STATES:							
Methodist Episcopal <sup>c</sup> . . . . .	21,149	14,898	5,116,102	36,469	415,713	4,801,864	29,312
Methodist Episcopal, South . . . . .	8,296	5,304	2,593,921	16,823	172,439	2,056,473	17,699
Methodist Protestant . . . . .	1,356	...	186,275	1,965	18,970	191,270	2,379
African Methodist Episcopal (Col'd) . . . . .	7,000	6,330	698,029	7,200	29,996	320,000	7,500
African Meth. Epis. Zion (Col'd) . . . . .	3,962	...	412,315	2,092	16,245	193,000	2,716
Colored Methodist Episcopal . . . . .	3,039	2,590	366,315	2,543	18,884	193,000	3,824
Free Methodist . . . . .	1,483	1,673	34,751	1,346	9,648	103,676	1,259
Wesleyan Methodist . . . . .	666	...	21,000	521	3,442	30,133	675
Primitive Methodist . . . . .	85	73	9,986	87	1,524	16,807	86
Congregational Methodist . . . . .	500	...	21,000	182	1,146	8,785	352
New Congregational Methodist . . . . .	27	...	1,256	27	143	1,298	24
Union American Meth. Epis. (Col'd) . . . . .	205	105	18,812	67	321	2,531	267
African Union Meth. Prot. (Col'd) . . . . .	260	...	3,750	40	441	3,088	58
Ref. Zion Union Apostolic (Col'd) . . . . .	79	...	10,000	36	212	1,508	58
Ref. Meth. Union Epis. (Col'd) . . . . .	52	...	2,126	18	204	1,792	29
British Methodist Episcopal (Col'd) . . . . .	20	6	700	18	125	...	21
Colored Methodist Protestant . . . . .	33	...	1,967	24	...	1,016	26
African American Meth. Epis. . . . .	35	...	5,811	25	...	934	27
UNITED CHURCH OF CANADA <sup>d</sup> . . . . .	4,586	1,946	692,348	...	...	874,978	8,806
JAPAN METHODIST CHURCH . . . . .	234	...	29,000	...	...	44,000	...
Totals . . . . .	60,444	96,563	11,798,185	91,859	958,205	10,837,939	105,819

\* Seating accommodation, 2,411,975.

<sup>b</sup> These figures include the Solomon Islands Mission, with 67 lay preachers, 45,504 members, 41 Sunday schools, 1,384 scholars and 115 churches and preaching places.

<sup>c</sup> Methodism is also represented in several European countries by Conferences and Missions affiliated with the Methodist Episcopal Church of America, and their membership is included in the figures. The latest returns available are: Austria, 1,005 members; Bulgaria, 879; Denmark, 4,242; Finland, 2,204; France, 1,374; Germany (North), 22,348; Germany (South), 18,208; Hungary, 750; Italy, 4,247; Jugo-Slavia, 1,298; Norway, 7,631; Russia (and Baltic Mission), 3,545; Sweden, 16,662; Switzerland, 11,765.

<sup>d</sup> The United Church of Canada includes in membership—Congregationalists, 12,220; Methodists, 414,017; Presbyterians, 266,111. Their Sunday Scholars' total includes Teachers and Officers.

support \$31,896,632, and for Sunday School expenses \$3,031,855. It was estimated that at least one-half as much more was raised for items of local expenditure.

Statistics compiled by the Methodist Publishing House in London and giving the latest procurable statistics are given in the table on page 467.

#### METHODIST EPISCOPAL CHURCH,

**SOUTH.** A separate branch of the Methodist Episcopal Church formed in 1845 over the question of slavery. At the quadrennial meeting of the General Conference held in May, 1926, 56 annual conferences were reported, 41 in the United States and 15 in other countries. The executive body is the College of Bishops, which has 15 members who hold office for life. A plan for the unification of the Methodist Episcopal Church and the Methodist Episcopal Church, South, agreed upon by a Joint Commission of the two churches in 1923, was passed with a large majority vote by the General Conferences of both churches in 1924, but in 1925, when submitted to the annual conferences to be acted upon, was defeated because, while a three-fourths majority in both branches was necessary, in the Southern Church the vote was only 4528 to 4108 in favor of the union. The denomination sponsors 248 educational institutions, including 29 universities and colleges, 29 junior colleges, 20 academies, 10 mission schools, and 1 Bible and Missionary Training School. In 1925 the enrollment in these institutions was 40,000 students. In the same year there were 8296 traveling preachers, 5304 local preachers, and 17,699 churches with a membership of 2,254,901. There were 267,494 members in the Epworth League and 16,823 Sunday Schools with an enrollment of 2,056,458. The Board of Missions carries on work in Belgium, Brazil, Mexico, China, Czecho-Slovakia, Poland, Japan, Cuba, Korea, Siberia, and the Congo. The most important periodicals of the denomination are the *Methodist Quarterly Review* and the *Christian Advocate*. Headquarters are in Nashville, Tenn. The secretary of the General Conference was A. F. Watkins, Meridian, Miss.

**METHODISTS, COLORED.** Several churches of the Methodist faith and form, composed of colored members. One of these, the Colored Methodist Episcopal Church, formed in 1870 as an offshoot of the Methodist Episcopal Church, South, effected the separation from that body of its remaining colored membership. Its quadrennial general conference was held at Muskogee, Okla., May, 1926, when it reported 10 bishops (one retired). It sponsored 14 schools and a hospital at Memphis, Tenn. It has 3619 traveling clergymen and 2101 local clergy. Its churches numbered 4295, with 436,952 members. There were 3119 Sunday schools with an enrollment of 247,526. Epworth Leagues to the number of 1192 had 36,923 members. The amount raised during the year for educational purposes was \$210,670; for missions in Trinidad, British West Indies, where it maintains 4 churches with 237 members and 6 ministers, \$237,510; for Sunday schools, \$310,560; and for salaries of pastors, bishops, and general officers, \$1,210,566.33. It published the following periodicals: *Christian Index*, *Western Index*, *The Index Herald*, and *Colored Methodist*. Its headquarters are at Jackson, Tenn.

The African Methodist Episcopal Church, the

outgrowth of an early colored Methodist movement in Philadelphia, developed rapidly in the Southern States after the Civil War. It follows the Methodist doctrine, but its bishops are appointed over districts, in contrast to itinerant bishops of other Methodist groups. Twelve colleges and four theological seminaries are maintained by this group. It holds a general conference every four years. The secretary was the Rev. William D. Johnson, Plains, Ga.

The African Methodist Episcopal Zion Church, the outgrowth of a Negro congregation formed in New York in 1796, follows the general Methodist doctrine and polity, including itinerancy. It publishes the *Star of Zion* (weekly), *Western Star of Zion* (weekly), *Quarterly Review*, and *Missionary Seer* (monthly).

Statistics for the foregoing and other colored Methodist bodies will be found in the article on **METHODIST EPISCOPAL CHURCH**.

**METHODISTS, CONGREGATIONAL.** A group of Methodists organized at Forsyth, Ga., in May, 1852, as a protest against certain features of the episcopacy and itinerancy. In 1887-88 nearly one-third of the churches of this group united with the Congregationalists, but a number of them later returned and gains in strength took place. Recently, however, losses have been suffered. There are 13 State conferences, and a general conference is held every fourth year. Latest available statistics, those for 1923, gave the number of churches as 352, with about 21,000 members and 500 ministers, and 182 Sunday schools. These were located in most of the southern and some of the northern states. The president of the General Conference in 1926 was the Rev. N. E. Fair, and the secretary J. M. Hays, Laurel, Miss.

**METHODISTS, WESLEYAN.** The principal branch of the Methodist denomination in Great Britain and Ireland, founded at the University of Oxford in 1729 by John and Charles Wesley, and holding its first conference in London in 1744. This is the mother church of the denomination and is composed of five divisions: Great Britain; Ireland; Foreign Missions; French Conferences; and South African Conferences. Statistics for all divisions for 1926 were: 18,764 churches; 35,939 lay preachers; 990,613 church members and probationers; 11,555 Sunday schools; 135,996 officers and teachers; and 1,063,467 pupils. In Great Britain alone there were 8591 churches, 18,850 lay preachers, and a church membership of 515,301. In July, 1926, the church held its 185th Conference. A publishing house is conducted by the denomination at 25 City Road, London, E. C. The branch of the church in Ireland reported 412 churches; 603 lay preachers; and a church membership of 29,322. Its general conference met in June, 1926, for the 156th session. See also **METHODIST, WESLEYAN CONNECTION OF AMERICA**.

**PRIMITIVE METHODIST CHURCH.** Commonly known as the "Camp Meeting Methodists," organized in Staffordshire in 1810. In 1926 there were reported to be 4566 churches; 13,636 lay preachers; 219,335 church members and probationers; 3920 Sunday schools, with 55,125 officers and teachers and an enrollment of 398,534. The publishing house of the denomination is at Holborn Hall, Clerkenwell Road, London E. C. A branch of this church was established in the United States in 1840. It comprises three conferences—the Western, the Pennsylvania, and

the Eastern—and reported in 1926, 86 churches, 73 lay preachers, 9986 church members, 87 Sunday schools, and an enrollment of 16,807 pupils. It holds a General Conference every four years, that for 1925 being held in September, at Kewanee, Ill.

**UNITED METHODIST CHURCH.** Established in England in 1907 and composed of the New Connection, the Bible Christians, and the United Methodist Free Churches. In 1925 there were 3055 churches; 5602 lay preachers; a church membership of 187,405; 2236 Sunday schools, 38,171 officers and teachers; and an enrollment of 264,796 pupils. Publishing House, 12 Farringdon Avenue, London, E. C.

**WESLEYAN REFORM UNION.** One of the smaller divisions of the denomination. It separated in 1850 from Wesleyan Methodist and was organized as a separate body in 1859. For statistics see **METHODIST EPISCOPAL CHURCH**.

**INDEPENDENT METHODIST CHURCHES.** These churches were founded in 1796, and united with other societies in 1806. The title was changed twice, but in 1898 the old name was resumed. In 1925 there were 165 churches; 10,384 church members and probationers; 166 Sunday schools; 3183 officers and teachers; and 24,758 pupils.

**AUSTRALIAN METHODIST CHURCH.** Methodism in Australia dates from 1812, the first conference being held in 1855. In 1926, there were 3752 churches, 8036 lay preachers, 166,101 church members, 3511 Sunday schools, with an enrollment of 203,431. Several publishing houses are conducted by the church, in Melbourne, Sydney, and Adelaide.

Other foreign branches of the denomination include the New Zealand Methodist Church and the Japan Methodist Church, for statistics of which see **METHODIST EPISCOPAL CHURCH**.

**METROPOLITAN MUSEUM OF ART.** See **ART MUSEUMS**.

**METROPOLITAN OPERA HOUSE.** See **MUSIC**, under *Opera*.

**MEXICAN BEAN BEETLE,** See **ENTOMOLOGY**, **ECONOMIC**.

**MEXICO.** A federal republic lying between the United States and Central America. Capital, Mexico City.

**AREA AND POPULATION.** The area of the republic, which is divided into 28 states, one federal districts, and two territories, is 767,198 square miles. The population, according to the census of 1921, was 14,234,799 of whom 6,974,213 were males and 7,287,586 females. The prevailing religion is Roman Catholic, but according to the new constitution of 1917, the church is separated from the state, and there is toleration of all other religions. No ecclesiastical body can acquire landed property. Mexico City, the capital of the republic, had a population of 615,367, of whom 23,668 were foreigners, at the census of 1921. Other large cities are Guadalajara, 119,468; Monterey, 73,528; San Luis Potosi, 68,022; and Mérida, 62,447. Immigration in 1925 was 127,336 and emigration, 81,757, leaving a balance in favor of immigration of 45,579.

**EDUCATION.** Education is free and compulsory, and according to the constitution of 1917, secular. It is regulated by the state authorities except in the federal district where it is regulated by the national government. The accompanying table published by the Bureau of Special Sta-

tistics shows the number of primary schools (not including rural schools) maintained by the federal government and the enrollment in each class:

	No.	Total enrollment
Kindergartens .....	81	5,958
Day primary schools .....	426	117,168
Evening primary schools .....	97	7,101

The following facts and figures are taken from the report of the Secretary for Public Education presented to Congress on Sept. 2, 1926: Five large modern open air schools were built in the past year in the crowded districts of Mexico City. Seven technical and industrial schools were also established during the same period. The rural schools have an enrollment of 143,435 children, as against 121,035 in 1925, while the average attendance in 1926 was 117,673 against 97,166 in 1925, an increase of 20,507. Adults being taught by rural teachers in 1925 numbered 16,138, whereas in 1926 they numbered 36,738. The increase in pupils in the rural schools since the last enrollment was 13,100.

In a circular letter to the governors of the states, Dr. Puig Casauranc, Secretary of Public Education, requested their earnest coöperation in the spread of public education throughout the country. In this letter he stated that a study of the most recent and complete statistics for 1925 showed that the total expenditure by state and local governments on education was about 20,000,000 pesos. The Federal Government in 1925 spent 23,252,992 pesos on education, aside from school construction and repairs, whereas in 1926 it was expected to spend not less than 25,000,000 pesos. This included expenditures for 143,000 pupils in Federal primary schools outside of the Federal District. It was thought that the number of such pupils in 1926 would reach nearly 200,000 because of the addition of 1000 new rural schools. The 1921 census figures showed the percentage of illiterates to be 62.29, while 1926 statistics show that there are in the country 2,652,199 children of school age, of whom only 1,040,521 are attending school, or 35.57 per cent of the school population. Therefore of each 10 Mexican children 6 are not attending school. The need of rural schools is very great, the total number maintained by the states being 4635 and by the federal government, 2690.

On July 23, 1926, the President signed the regulations for the conduct of private schools, which were hereafter to be lay schools and not permitted either to teach or disparage any particular religion. Private primary schools may be either incorporated under the Department of Education, accepting the official curriculum and standards, or not incorporated; that is, without the required studies and standards to give their graduation certificate value equal to those of standard schools. The regulations further provide that private schools may not have a name which indicates religious affiliations nor a connection with a religious order, nor may they have chapels or rooms reserved for religious services, nor religious decorations such as pictures, statues or other objects.

**AGRICULTURE.** According to the United States Bureau of Foreign and Domestic Commerce, the

effect of nearly a decade of political and social disturbance in Mexico was reflected in a lower agricultural productivity, the loss amounting on the average to slightly over 17 per cent. That the attention of the Mexican government was increasingly focused upon intensified agriculture was evidenced by the number and ambitious extent of certain plans, notably those for farm schools, rural credits, and the distribution of agricultural implements. The basic inefficiency of Mexican agriculture is shown by the per capita area of cultivation and the ratio of actual cultivation to the arable domain. The area under cultivation and its distribution among the various crops is given in the accompanying table:

AREA AND PERCENTAGES OF AREA DEVOTED TO AGRICULTURE AND TO VARIOUS CROPS IN MEXICO FOR 1924-1925 CROP YEAR

Item	Area Hectares *	Percentage of cultivated area
Total area .....	200,000,000	....
Cultivable area .....	150,000,000	....
Cultivated area .....	7,000,000	100.0
Principal commercial crops:		
Henequin .....	206,320	2.9
Cotton .....	122,300	1.7
Coffee .....	172,950	2.5
Total .....	501,570	7.1
Principal food crops:		
Corn .....	2,133,000	30.5
Wheat .....	694,900	9.9
Sugar .....	69,890	1.0
Beans .....	1,320,000	18.9
Barley .....	315,200	4.5
Chick-peas .....	52,960	.7
Rice .....	25,500	.4
Potatoes .....	291,320	4.2
Sweet potatoes .....	2,560	....
Total .....	4,905,330	70.1
Other crops .....	1,593,100	22.8

\* One hectare = 2.471 acres.

Accepting the 1926 population of Mexico as 15,000,000, the per capita area of cultivation, was 0.46 of a hectare. The total area under cultivation was, moreover, but 3.5 per cent of the cultivable area of the republic—indicating how wide a margin existed between actual and potential production in agriculture.

With the exception of the State of Jalisco, from which reports indicate an increased agricultural production over 1924, the year 1925 was very unfavorable for Mexican agriculture. The principal causes were the locust plague, the unusual drought during the earlier season, and the very heavy rains and winds during the growing seasons in the principal producing areas.

**MINING AND PETROLEUM.** Although the Mexican mining industry was affected by adverse legislation and labor agitation during 1925, the favorable prices for silver, lead, and zinc gave an impetus to production and exploration. The output of both lead and zinc was higher than ever before, while silver production—although somewhat below the 1924 level—showed an increase over the three preceding years, as did also the production of gold. The district of Pachuca continued to hold its position as the world's largest silver producer. The increasing number of flotation plants for the selective concentration of silver-lead-zinc ores, along with other evidences of progress in ore treatment was particularly significant, since it was enabling min-

ing companies to develop ore bodies which in the past have been ignored because of the base character or low grade of the ore.

According to statistics published by the Mexican Department of Mines, 3176 petitions for mining concessions, involving 39,722 hectares of land were filed with that department in 1925, as compared with 2011 petitions, covering 25,006 hectares in 1924.

The *Engineering and Mining Journal*, (New York), stated in its annual review, mining in Mexico in 1926 was generally profitable, and production of metals was, in most cases, in excess of that of previous years. Notable occurrences were the completion of several differential flotation concentration plants, the drop in the price of silver, and the enactment of a new Mexican Federal Mining Law. The figures in the accompanying table are actual for the year 1925 and for the first nine months of 1926, but estimated for the remainder of the year. The data were supplied by the Mexican Federal Mining Department.

MEXICAN MINERAL PRODUCTION

	1926	1925	1924
Gold, oz. ....	753,757	788,993	792,401
Silver, oz. ....	93,235,000	92,885,176	91,437,944
Lead, tons ....	227,115	196,528	181,569
Copper, tons ....	61,820	60,056	55,068
Zinc, tons ....	105,050	56,974	27,125
Mercury, tons ....	45	43	40
Antimony, tons ....	2,668	1,473	852
White arsenic, tons ....	8,800	8,250	2,805
Graphite, tons ....	5,005	6,890	8,825
Manganese ore, tons ....	4,400	3,666	1,980
Coal, tons ....	1,100,000	1,588,948	1,393,366

The new Mexican mining law, which went into effect Aug. 1, 1926, greatly limits the conditions under which mines may be developed and operated. Under the new law, it is necessary, in taking up virgin ground, to apply for an exploration license, which when minable ore is discovered, may be converted into a mining license that will be continued for as long as desired, provided the operator conforms to government regulations. Penalties for infractions of the regulations are either fines of varying amount or forfeiture of the mining license. Among other things, regulations limit the size of group of claims. Provision was made in the law for registration of preexisting mining concessions, which if effected before Aug. 1, 1927, will entitle the owners to continue operations with the full enjoyment of preexisting rights and laws. The law limits the right of states to levy taxes on mining rights and properties. There was great opposition to the law, but with the provision in the law for recognition of preexisting rights and titles under the terms by virtue of which these were granted, it would not seem that these owners were seriously affected in their operations.

Mexican petroleum activities in general showed a decline in 1925 as compared with 1924. The total production of crude oil in 1925, amounted to 114,827,186 barrels—24,851,108 barrels less than during the preceding year. The 1924 drilling record showed 296 productive wells and 403 abandoned; corresponding statistics for 1925 revealed 299 productive wells and 498 abandoned. During 1924 an average of 126 wells were drilled monthly, compared with 121 monthly in 1925. Considering the productive wells only, the daily capacity of the new wells of











1924 averaged 3384 barrels, compared with 3608 in 1925. During 1925, 1522 drilling permits were issued, an increase of 151 over the 1914 record.

Of the total Mexican production in 1925, approximately 13,360,000 barrels of crude and its derivatives were consumed within the country. In addition, 1,809,000 barrels of products were imported. It is estimated that a total of 37,456,348 gallons of gasoline, domestic and imported, were consumed during 1925, or a monthly average of 3,121,362 gallons. The 1925 production of crude was 18,254,624 cubic meters or 114,827,186 barrels, valued at 296,899,788 pesos.

COMMERCE. According to *Commerce Reports*, the foreign trade of Mexico in 1925 increased considerably over 1924. The total of imports and exports amounted to 1,073,481,004 pesos (\$563,740,502) in 1925 compared with 936,084,120 pesos in 1924, an increase of about 14.6 per cent. Exports amounted to 682,484,832 pesos (\$341,242,416) and imports to 390,996,172 pesos (\$195,498,086) of the total trade for 1925, giving a favorable visible balance of trade of 291,488,660 pesos. The export trade for 1925 expanded considerably over that for 1924. Most of the exports showed increases but the value of crude petroleum shipments decreased from 163,853,581 to 137,411,054 pesos. Exports of fuel oil also declined, but those of gasoline increased about 50 per cent. Other exports that were noticeably greater in 1925 than in the previous year were henequen, copper, lead, zinc, coffee, rubber, vegetables, and vanilla. Other declines occurred in the exportation of bananas, sugar, and cotton. The accompanying table includes exports by major classifications for the years 1924 and 1925.

Classifications	1924	1925
Live animals .....	\$350,492	\$624,426
Articles of food and drink .....	20,516,656	27,883,917
Materials, raw or partly manufactured .....	223,793,300	213,032,927
Manufactured articles .....	1,594,436	1,817,990
Gold and silver (including coin) .....	61,101,373	67,883,156
Total .....	307,356,257	341,242,416

The increase in the value of imports was distributed over most of the import items, although a number registered declines. The accompanying table shows imports by major classifications for the years 1924 and 1925.

Classifications	1924	1925
Live animals .....	\$1,435,403	\$2,778,074
Articles of food and drink .....	25,364,649	31,776,918
Materials, raw or partly manufactured .....	21,211,478	21,173,978
Manufactured articles .....	11,848,399	134,824,793
Gold and silver (including coin) .....	825,873	4,944,323
Total .....	160,685,802	195,498,086

The following tables show imports and exports of Mexico by countries for 1924 and 1925:

#### IMPORTS OF MEXICO BY COUNTRIES

[Value in thousands of pesos, i. e., 000 omitted. Peso equals at par 49.85 cents U. S. currency]

Country of origin	1924 Pesos	1924 Per cent of total	1925 Pesos	1925 Per cent of total
United States ....	233,121	72.6	274,496	70.2
United Kingdom ..	22,587	7.0	30,665	7.8
Germany .....	23,203	7.2	29,868	7.6
Italy .....	1,758	.5	3,009	.8

#### IMPORTS OF MEXICO BY COUNTRIES—Continued

Country of origin	1924 Pesos	1924 Per cent of total	1925 Pesos	1925 Per cent of total
Belgium .....	2,136	.7	2,999	.8
France .....	16,057	5.0	20,907	5.3
All others .....	22,456	7.0	29,052	7.5
Total .....	321,318	100.0	390,996	100.0

#### EXPORTS OF MEXICO BY COUNTRIES

[Value in thousands of pesos, i. e., 000 omitted]

Countries of destination	1924 Pesos	1924 Per cent of total	1925 Pesos	1925 Per cent of total
United States ....	493,224	80.2	516,862	75.8
United Kingdom ..	34,611	5.6	44,636	6.5
Germany .....	17,534	2.9	33,018	4.8
Italy .....	1,801	.3	590	.1
Belgium .....	5,385	.9	8,433	1.2
France .....	8,881	1.4	11,843	1.7
All others .....	53,777	8.7	67,103	9.9
Total .....	614,713	100.0	682,485	100.0

Imports for the first six months of 1926 amounted to 185,741,357 pesos and exports to 357,934,260. Imports for the corresponding period of 1925 were 200,987,589 pesos and exports 358,807,470 pesos. Imports decreased 15,226,232 pesos and exports, 873,210 pesos.

FINANCE. The revenue for 1925 was 286,399,372 gold pesos and the expenditures 291,863,677 pesos. On Sept. 1, 1925, the figures for the public debt of Mexico were given as follows: Debts not included in the de la Huerta-Lamont Convention of 1922, capital and interest, 171,445,085 pesos; debts included in the convention, 982,136,775 pesos. During 1926 the service on the debt amounted to 64,824,412 pesos, of which 39,324,412 represent service on the internal debt and 25,500,000 that on the external debt.

COMMUNICATIONS. No later statistics on shipping are available than those given in the preceding YEAR BOOK; in 1923, 13,921 vessels of 26,188,422 tons entered the ports of Mexico and 13,799 vessels of 26,084,140 tons cleared. The most important railway in Mexico is the National Railways of Mexico which in 1925 operated 8200 miles of track and controlled an additional 322 miles. There were also 4676 miles of private line.

According to the *Railway Age*, the National Railways of Mexico, by virtue of an agreement reached in New York on Oct. 23, 1925, were returned to private owners on Jan. 1, 1926. The system had been operated by the government since it was taken over by the Constitutionalist government on Dec. 4, 1914. Under the new agreement, the entire net receipts of the National Railways were to be sent monthly by the executive president to the office of the international committee in New York. In the event that the receipts exceeded the payments due, the excess was to be used to retire some of the outstanding paper. It was estimated at that time that the railway debts amounted to 479,268,644 pesos as capital and 197,053,926 pesos as back interest.

GOVERNMENT. Under the constitution of 1917, executive power is vested in the president, elected by direct popular vote for four years and ineligible for reelection; legislative power in the congress, consisting of the house of representatives, elected for two years by universal suffrage, and the senate, comprising two mem-

bers from each state, elected in the same manner. President, Plutarco Elias Calles (Elected July 7, 1924, assumed office Nov. 30, 1924).

### HISTORY

**LAND AND PETROLEUM LAWS.** Throughout the year the relations between the United States and Mexico were severely strained because of the difficulties arising over the new land and petroleum laws which the government of Mexico announced would go into effect in January, 1927. From the time that the Mexican government announced its intention of promulgating these laws the United States government objected on the grounds that they were retroactive and confiscatory in nature, and in violation of the agreement reached in 1923 as a basis for recognition of the Obregon government. On April 10 the American State Department published a series of ten notes which had passed between the two governments concerning the issues at stake and on November 24, the contents of four more notes, two from each government were published. The last four notes dealt with the fundamental principles which Secretary of State Kellogg believed to be basic in considering the problems. He defined them as follows: First. Lawfully vested rights of property of every description are to be respected and preserved in conformity with the recognized principles of international law and equity. Second. The general understanding reached by the Commissioners of the two countries in 1923, and approved by both governments at the time of resumption of diplomatic relations with them, stands unmodified and its binding force is recognized. Third. The principles of international law that it is both the right and the duty of a government to protect its citizens against any invasion of their rights of person or property by a foreign Government, and that this right may not be contracted away by the individual is conceded. Fourth. The principle that vested rights may not be impaired by legislation retroactive in character or confiscatory in effect is not disputed.

According to *Current History*, New York, Secretary Kellogg's assertion that there was virtual agreement between the governments of the United States and Mexico with respect to the above basic principles was not to go unchallenged by the Mexican Foreign Minister, Sáenz. Instead, the correspondence showed, first that the Mexican government adheres unqualifiedly to the first principle; second, that it adheres to the fourth principle while contending with respect to it, "that the mere retroactive character of a law, taken by itself and until it does produce confiscatory effects or is harmful in any other way when applied cannot give rise to any objection whatever, nor be the cause of diplomatic representation"; and, third, that there is a wide difference in the opinions of the two governments with respect to the second and third of the above principles.

On the assumption that the Mexican government evidently considers "property rights, which are commonly regarded as vested, in terms of a mere right of user or enjoyment, which might lawfully be interrupted or wholly taken away by laws or regulations," Secretary Kellogg indicated how the application of such a theory would affect American property owners. Owners of the subsoil who acquired their

titles before the constitution of 1917 was promulgated are required "under penalty of forfeiture, to apply within one year for 'confirmation' of their titles and to accept 'concessions' for not more than fifty years from the time the exploitation works began." The American government contended that this was retroactive and confiscatory because it converted exclusive ownership into a mere authorization to exercise rights for a limited period of time. Foreign Minister Sáenz disagreed with this contention and stated that "the best defense that may be offered for the petroleum law . . . is the large number of applications for confirmation that have been filed and published, many of them being from foreign concerns."

In referring to the land law Secretary Kellogg stated that "foreign absolute owners of stock in Mexican corporations holding rural property for agricultural purposes" are required "to dispose of their corporate interests in excess of 49 per cent within the term of 10 years." According to Mr. Kellogg, this meant that "a plainly vested interest . . . is divested by compelling the holder, without his desire or consent, to dispose of the same within a limited time under conditions which may or may not be favorable to the transfer." He said that the United States could not accept such a conception of a vested right. Mexico replied that the law merely imposed on foreign owners of corporate stock in excess of 49 per cent the obligation to transfer this property incompatible with the law into another form which can be compatible, fixing a term of years for this to be accomplished.

In the last note of the year sent by Secretary Kellogg on October 30, he stated that the United States government saw no reason to change its previous position on any of the matters in dispute between the two countries and that he "desires to be understood as maintaining these positions with utmost emphasis." His purpose had been "to point out so clearly as to leave no room for misunderstanding the extremely critical situation affecting the relations between the two countries." In conclusion he warned the Mexican government that the United States "expects the Mexican government not to take any action under the laws in question and the regulations issued in pursuance thereto which would operate either directly or indirectly, to deprive American citizens of the full ownership, use and enjoyment of their said properties and property rights." In reply to this Minister Sáenz stated in what was to be his last note of the year "My Government on its part expects that your excellency will indicate the concrete cases in which recognized principles of international law may have been violated or may be violated in disregard of legitimate interests of American citizens, since in such cases it will be disposed to repair such violations." These notes which were published on November 24 were, as noted above, the final correspondence of the year in respect to the petroleum and land laws. The situation from that date until the end of the year was tense and fraught with all sorts of possibilities. Mexican and American public opinion were divided as to the outcome of the putting into effect of the laws on Jan. 1, 1927. In some quarters of the American press there was an attempt to connect the Sinclair-Doheny oil interests with the insistent demands made upon the Mexican government by the

United States government. These papers alleged that the oil companies which had not complied with the "confirmation" provision of the law were controlled by the above interests and they expected the Coolidge government to go to the same length for the oil interests that the Harding government had gone. Generally speaking, the papers supporting Mr. Coolidge gave him and his Secretary of State their full support. American-Mexican relations were further strained by the revolution in Nicaragua (q.v.) and the struggle carried on between the Mexican government and the church in general and the Roman Catholic Church in particular.

**STRUGGLE BETWEEN THE STATE AND CHURCH.** In some measure the strained relations between the United States and Mexico were overshadowed by the titanic struggle carried on throughout the year between the Calles government and the Roman Catholic Church. This struggle dated back to the constitution of 1917 as did the disagreements over the land and oil laws. In that constitution the following provisions concerning religion and education were incorporated: "Religious institutions known as churches, irrespective of creed, shall in no case have legal capacity to acquire, hold, or administer real property. Places of public worship are the property of the nation, as represented by the Federal Government, which shall determine which of them may continue to be devoted to their present purpose. Episcopal residences, rectories, seminaries, orphan asylums, or collegiate establishments or religious institutions, convents, or any other buildings built or designed for the administration, propaganda, or teaching of any religious creed, shall forthwith pass, as of full right, to the legal ownership of the Nation. Only a Mexican by birth may be a minister of a religious creed in Mexico. No ministers of religious creeds shall criticize the fundamental laws of the country, the authorities in particular, or the government in general."

On February 11 the government announced that it would begin immediately to carry out these provisions of the constitution, and that immediate steps would be taken to nationalize all the churches and deport all foreign priests. On the next day the government ordered the closing of all schools, orphan asylums, and convents where instruction was given. Steps were immediately taken to carry out the deportation provisions and within a few weeks the press of the entire world was reporting forcible and voluntary deportations in order to avoid arrest and its consequences. In some cases mild cases of rioting were reported in places where the state attempted to close the churches.

Generally speaking the acts of the state were directed against the Roman Catholic churches chiefly because they were in the vast majority and partly because the Protestant denominations had already complied with the provisions of the constitution. Private schools were ordered to register with the Ministry of Public Instruction within a given period of time or be forcibly closed. Religious instruction was forbidden in all private primary schools and they were ordered to sever any connections whatsoever with a religious organization. The action of the Calles government was received in the United States with vigorous demands for American interference in certain quarters. The Coolidge government

stoutly refused to make any formal complaint to the Mexican government despite repeated requests from many quarters and a growing and ever-increasing insistent demand that some action be taken. The only comment in the early stages of the struggle was the presentation of a note to the Mexican government on March 9 which expressed the hope that American citizens would not be obliged to undergo actual hardship or injury because of their religious beliefs and practices.

On April 19 Pope Pius XI published a letter to the Archbishops and bishops of Mexico in which he severely criticized the "wicked regulations, and laws against the Catholic citizens of Mexico which have been sanctioned by officials hostile to the church." The National Catholic Church of Mexico was declared a schismatic sect. All Catholics were forbidden to establish any political party under the name Catholic and all bishops and priests were forbidden to become members of any political party or to write for the journals of any political faction.

The first organized resistance of the church to the acts of the government occurred on July 31, when for the first time since the conquest of Mexico by the Spaniards, the religious ceremonies of the Roman Catholic Church were suspended throughout Mexico. This was done as a result of a conference of the leaders of the church and with the sanction of the Pope. The selection of this date was made because it was the time set for the enforcement of the decrees of the Calles government for the full enforcement of the provisions of the constitution of 1917. The churches were not closed by the priests but were to be left in the hands of the worshippers. On July 27, the Mexican Minister of the Interior sent a message to all State governors telling them that the Catholic clergy "in an act of rebellion and disowning constitutional precepts" was planning to suspend religious services "to evade the supreme law, to agitate public opinion and procure disorders." The governors were directed to seize the churches when such action took place and "on no account should any church be handed to a committee or individuals named by priests or Catholic bishops."

The last religious services of the Roman Catholic Church were held on July 30 and immediately after they were finished the civil government took charge of all buildings throughout the country and locked them up. This was carried out without any particular disorder. Many of the churches opened as usual on August 1 and about the only difference that a lay person could notice was the absence of officiating priests. In accordance with a letter from the Pope all Catholic churches throughout the rest of the world were requested to pray for the Catholics of Mexico on August 1. While this was presumably being done, a tremendous parade was staged in Mexico City as a demonstration in favor of the programme of President Calles and his cabinet. The leaders in this demonstration were the labor bodies, which heartily endorsed the anti-church decrees.

Throughout the summer the conflict between church and state raged. President Calles remained firm in his insistence that the constitution be upheld and apparently did not lose any of his popularity because of the fact that the church leaders denounced him as a rank Bolshevik. Some effect on business was noted due

to the economic boycott sponsored largely by Catholic lay organizations. The government arrested any person furthering this movement although it declared the scheme ridiculous, President Calles remarking on one occasion, "He who has no clothes I am sure will buy them."

In the early part of September the Catholic Episcopate of Mexico presented a petition to the Chamber of Deputies of the Mexican Congress requesting that body to amend or repeal the provisions of the constitution of 1917 as they affected the church and educational institutions. On September 24 the Chamber rejected the petition by a vote of 171 to 1. During the autumn there was some trouble in the outlying states, chiefly with the Yaqui Indians, in Sonora. The uprising was put down without much trouble. It is mentioned here because charges were made in the Mexican Congress that the movement was sponsored and financed by Catholic organizations both within and without Mexico. These charges were never definitely proved.

The year closed with the church and state still deadlocked. The regulations of the government were made more severe by a bill passed on November 25. On November 20, the Pope issued an encyclical which bitterly attacked the Mexican government and praised the lay bodies, such as the Knights of Columbus, for the firm stand they had taken on the side of the clergy. The Pope's letter ended with supplications to Our Lady of Guadalupe, the patroness of the Mexican Indians, to forgive the crimes committed against her and to intercede for the return of peace and concord in Mexico. Shortly after the publication of this letter the Episcopate declared that Calles was motivated largely by his Bolshevistic leanings. The President in a statement to the press stated that all charges that he was Bolshevistic were pure propaganda.

**MICHIGAN. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 3,668,412. The estimated population on July 1, 1926, was 4,390,000. The capital is Lansing.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	1,593,000	54,162,000	\$39,538,000
	1925	1,642,000	65,680,000	49,260,000
Hay, tame	1926	2,869,000	4,097,000 *	56,539,000
	1925	2,887,000	2,871,000 *	47,372,000
Wheat,	1926	979,000	17,916,000	21,858,000
	winter	851,000	14,467,000	22,569,000
Wheat,	1926	5,000	82,000	100,000
	spring	5,000	90,000	140,000
Oats	1926	1,570,000	51,810,000	20,724,000
	1925	1,619,000	51,808,000	20,723,000
Potatoes	1926	261,000	29,880,000	35,856,000
	1925	237,000	24,411,000	39,546,000
Beans, dry	1926	552,000	6,624,000	18,547,000
	1925	639,000	8,626,000	25,447,000
Rye	1926	199,000	2,686,000	2,095,000
	1925	216,000	2,700,000	2,106,000
Barley	1926	133,000	3,790,000	2,464,000
	1925	129,000	3,160,000	2,275,000
Sugar beets	1926	103,000	842,000 *	
	1925	99,000	969,000 *	6,836,000

\* tons.

**MINERAL PRODUCTION.** Iron ore, the leading mineral product of the State, was actively mined in 1925. There were shipped from the State's mines 15,254,003 long tons of iron ore, as against 11,248,641 long tons in 1924; in value \$40,926,315 in 1925 and \$35,605,902 in 1924. Pig iron

produced in the State attained for 1925 the quantity of 831,435 long tons, and for 1924, 650,333 long tons; with a value, for 1925, of \$18,452,346 and for 1924 of \$15,225,900. Next in importance, the production of copper was 138,029,764 pounds in 1925 as against 145,333,227 pounds (smelter output). The copper product was valued in 1924 at \$17,771,801 and in 1923 at \$20,330,700. Coke production, one of the important mineral industries of the State, was 1,770,547 short tons in 1924 and in 1923, 1,648,773 short tons; its value in 1924 was lower than in 1923, being in 1924 \$11,914,028 and in 1923 \$14,389,742. Coal production supplied only a part of the State's coal needs, being in 1925 808,233 net tons, and in 1924 831,020 short tons; in value, \$3,391,000 for 1925, and for 1924 \$3,602,000. Cement was a growing industry, of which the product in 1925 totaled 10,920,000 barrels, and in 1924 9,259,781 barrels; in value, cement shipments in 1925 attained \$18,825,000 and in 1924 \$16,405,761. Clay products had a value of \$10,246,953 in 1924 and in 1923 of \$6,959,278. Salt production was important, being the highest for any State. The totals were 2,172,000 short tons in 1925 and 1,918,463 short tons in 1924; in value, \$7,710,331 in 1925 and in 1924 \$7,864,838. Sand and gravel, calcium chloride, gypsum and stone were produced in important quantities. The total value of the State's mineral products, duplications eliminated, was \$114,239,386 in 1924; in 1923, \$128,291,450.

**FINANCE.** Payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$43,691,390. Their per capita rate was \$10.63, as against \$9.53 in 1924 and \$7.25 in 1918. Their total included \$15,055,175 for education, apportioned among minor State divisions, from a "Primary School Fund." Expenses totaling \$82,122 for public service enterprises, \$4,219,940 for interest on debt and \$31,616,192 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$79,609,644. For highways was expended the sum of \$27,915,618, of which \$3,264,166 was for maintenance and \$24,651,452 for construction.

Revenue receipts of the State were \$65,945,861, or \$16.04 per capita. They exceeded by \$17,952,409 the total payments except those for permanent improvements, and were \$13,663,783 less than the total with these included. Payments in excess of revenue receipts were met from the proceeds of debt obligations. Property and special taxes formed 53.4 per cent of the total revenue in 1925, as against 60.8 per cent in 1924 and 60.2 per cent in 1918. Their per capita rate was \$8.56 in 1925, \$8.92 in 1924 and \$4.18 in 1918. Earnings of the general departments and compensation for officials' services furnished 8.9 per cent of the 1925 revenue; business and non-business licensees, 21.4 per cent. State license receipts were derived chiefly from the taxes on incorporated companies and on gasoline sales, and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$81,610,233, or \$19.86 per capita, as against \$18.42 in 1924 and \$2.64 in 1918. The assessed valuation of property subject to State tax was \$6,836,601,622. The State tax levy was \$24,610,750, or \$5.99 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 8349.

The new construction in 1926 was about 10 miles of first track and one mile of second track. The Pere Marquette system abandoned 19 miles of line between White Cloud and Big Rapids.

**EDUCATION.** A child accounting system was installed in the State. It was organized to function on a centralized plan and had the department of public instruction as its head. Under this system a series of reports to the superintendents of schools, to county superintendents and to the department of public instruction, concurrently, affords a continuous check on the school progress of each child of school age in the State. The system, according to the *Journal of the National Education Association*, had the recommendation and endorsement of the Michigan Education Association.

The school population as estimated on May, 31, 1925, the latest available figure, was 1,160,435. Total enrollment in public schools was 845,118; of this number 719,344 were enrolled in common schools and 125,774 in high schools. Expenditure for public education in Michigan in 1926 was reported as \$68,344,635. Salaries of men teachers averaged \$1870, those of women teachers, \$1400, yearly.

**CHARITIES AND CORRECTIONS.** Charitable and correctional institutions of the State include the following: State Prison and Branch State Prison; several State Hospitals; a Farm Colony for Epileptics; industrial schools, for boys and for girls; Soldiers' Home; schools for the deaf and the blind.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, the Republican candidate for Governor, for the term beginning in December, 1926, Fred W. Green, was elected, defeating William A. Comstock, the Democratic candidate. A solid delegation of 13 Republicans was elected to the U. S. House of Representatives. The State party primaries were held September 14, and in the Republican primary Green defeated Governor Groesbeck, serving his fourth term, by about 140,000. Other State officers elected in November to enter office in 1927 were: Lieutenant-Governor, Luren D. Dickinson; Secretary of State, John S. Haggerty; State Treasurer, Frank D. McKay; Auditor General, Oramel B. Fuller; Attorney General, William W. Potter.

The labor situation in the automobile factories of Michigan was the subject of action at the annual meeting of the American Federation of Labor, held at Detroit early in October. (See **LABOR, AMERICAN FEDERATION OF.**) In accordance with an act of the 1925 Legislature which permitted 500 miles of highway to be added to the State system, 377 miles of unimproved highway was admitted into that system, and contracts totaling more than \$12,000,000 for construction in 1927 were let during the year. Following an escape from Ionia prison on August 28, Judge R. A. Hawley conducted an investigation and made in December a report condemning the dormitory system there in use and advocating a return to the earlier block system of lodging the convicts. The State Supreme Court held in a decision rendered December 8 that the Governor had a right to nullify paroles and subsequent pardons, when terms of parole had been violated by a criminal. A committee of the Michigan League of Municipalities devoted study to means of relieving general property from the burden of State taxation, in the interest of municipalities taxing property. Proceedings against Benjamin

Purnell, head of the House of David, a communistic religious organization established at Benton Harbor, were instituted when Purnell after a long search on the part of the authorities was reported as living secretly within the premises of the colony. State troopers raided the House of David premises and arrested Purnell November 17. He was arraigned at Benton Harbor on charges brought by former women members of the religious colony, and held for examination December 22. In Detroit a division of the Recorder's Court was created, known as the Traffic Court. In its first 6 months it disposed of 42,117 cases of defendants charged with serious violations of traffic regulations; 59,059 (chiefly) minor charges were canceled by the police.

**OFFICERS.** Governor, Alexander J. Groesbeck; Lieutenant-Governor, George W. Welah; Secretary of State, Charles J. Deland; Treasurer, Frank D. McKay; Auditor, Oramel B. Fuller; Attorney-General, Andrew B. Dougherty; Superintendent of Public Instruction, Thomas E. Johnson.

**JUDICIARY.** Supreme Court: Chief Justice, John S. McDonald; Associate Justices: Howard Wiest, George M. Clark, John E. Bird, Nelson Sharpe, Joseph H. Steere, Ernest C. Snow, Grant Fellows.

**MICHIGAN, UNIVERSITY OF.** A co-educational State institution of higher education at Ann Arbor, Mich.; founded in 1837. The University, made up of nine schools and colleges, admits graduates of accredited high schools to the College of Literature, Science, and the Arts, to the College of Engineering and Architecture, to the College of Pharmacy, and to the Training School for Nurses, as well as to the special programme for dental hygienists and the curriculum in physical education. In 1925-26 the enrollment was 12,690, of whom approximately 33 per cent were women. Of this number, 63 per cent were inhabitants of the State of Michigan, the remaining 37 per cent, with the exception of 314 foreign students, from all parts of the United States. The teaching staff was composed of 701 members. The University libraries contained 619,508 volumes. For current expenses, the University receives annually \$3,700,000 from the State, together with more than two and one-half million from other sources. The University hospital contained 724 beds, as against 600 in 1925, when it was opened, and it was planned to extend it still further. The Thomas Henry Simpson Memorial Institute of Medical Research, the gift of Mrs. T. H. Simpson of Detroit, was completed during the year. There were under construction a new architecture building, to be completed by September, 1927; and a stadium with a seating capacity of 70,000, to be completed by the autumn of 1927. President, Clarence Cook Little, Sc.D., LL.D.

**MIDDLEBURY COLLEGE.** A co-educational, non-sectarian college at Middlebury, Vt.; founded in 1800. For the fall term of 1926 a total of 610 students were registered as undergraduates, of whom 329 were men and 281 were women. There were also 6 men and 13 women enrolled as graduate students. The summer session had enrollment of 384. The faculty in 1926 comprised 59 members, 55 teachers and 4 officers of administration. The college's productive funds amounted to \$2,900,065, and the income for the year to \$292,459. In 1926 gifts to the college amounted to \$113,991.82. There were 50,000

volumes in the library. President, Paul Dwight Moody, D.D.

**MIDDLE CONGO.** See FRENCH EQUATORIAL AFRICA.

**MIGRATION.** See ZoöLOGY.

**MILITARY PROGRESS.** Progress in things military did not characterize the year 1926, and stagnation would best describe these conditions throughout the world—and in many cases, there was retrogression in morale in many armies. The notable exception in the way of national and international achievement was that of Germany. The Locarno Pacts, accomplished in the latter part of 1925, gave Germany an advantageous international position. The results of these agreements were the evacuation of Cologne on Jan. 31, 1926, and a general letting up in the Allied handling of the Rhineland occupation, with even a small withdrawal of troops. In September Germany was admitted to membership in the League of Nations (q.v.). The Inter-Allied Aeronautical Commission of Control withdrew in September as the direct result of the Franco-German Air Treaty in April, whereby planes of either country were allowed to fly over the other's territory. The degree of technical perfection of the Reichswehr had been noticeably increased. The dismissal of General Von Seeckt did not affect, apparently, this disciplined army.

The situation on the eastern frontier had not cleared. Relations between Poland and Germany were strained and sudden armed action was entirely possible. Germany did not acquiesce in the loss of the Polish Corridor, Upper Silesia, and Danzig, and it was not a far guess that Germany would take the first opportunity to regain these territories lost to her. Germany is the outgrowth of a military force and knows what force will accomplish. What other inference from the semi-military societies that devote so much time to military drills and training? The psychological effect of the prohibited training of the Versailles Treaty on a nation of her mind and experience are self-evident. The resignation of General Von Seeckt of the German Reichswehr satisfactorily solved his unwise action in allowing a son of the Ex-Crown Prince William to serve in a well known regiment during the Munsingen summer manœuvres. The minister of defense, Herr Gessler, knew nothing of it, and President Hindenburg had no alternative but to accept the resignation. It gave too much recognition to the monarchists in Germany. General Von Seeckt was succeeded by General Heye as Commander-in-Chief.

The powers had agreed that the Inter-Allied supervision over Germany's armaments, effective for the previous eight years, would cease on Jan. 31, 1927. At that time the Allied Military Control Commission under Marshal Foch was to leave Germany, and responsibility for German fulfillment of disarmament clauses of the Versailles Treaty would fall to the League of Nations. The *New York Herald Tribune*, Dec. 12, stated that the agreement stipulated that the delinquencies heretofore reported,—among others, that Germany was building forts on the Polish frontier,—would be attended to, and that unless satisfaction was given the Allies before Jan. 31, 1927, the whole matter would pass to the League Council for arbitration or for moral pressure to force Germany to comply. At the Allied embassies in Berlin military experts were to be maintained to watch the League's control of

German armaments. Another question was that relating to the export of war materials. The transfer of armament supervision to the League of Nations was only a detail in its process of treaty enforcement, according to the *New York Times* of December 14.

The year witnessed the first manœuvres of the German Army since the World War, in which forces larger than a division participated. The German Army was regulated by the Treaty of Versailles to number 96,000 men and 4000 officers. It was organized into seven rifle and three cavalry divisions. Each rifle division consisted of three infantry regiments, one artillery regiment of six batteries of four guns each and three batteries of four howitzers each, one squadron of cavalry, one pioneer battalion with detachments of signal, motor trains and sanitary services. It lacked air service, gas service, tanks, heavy artillery, light artillery, accompanying weapons for the infantry, sufficient heavy field guns and light automatic weapons. The strength of an infantry company was 130 men, a number most effective to be handled by a single officer.

**MOROCCO.** The war was finally ended on May 25, 1926, by the surrender of Abd-El-Krim, and his later banishment from Morocco. The French and Spanish started the year with a short and speedy campaign, but though costly, it was successful in the final elimination of that rebel leader.

**SYRIA.** Sueida, the capital and chief city of the Druses, with the important town of Salkhad, was captured by the French under the command of General Andreas in June. The efforts of Sultan At Trash, the Druses' leader, to recapture Sueida, had failed, and all had retired into their native hills. The support expected of Ibn Saud, the new Arabian leader, did not materialize, and they saw the hopelessness of their long and brave struggle against the French.

**GREAT BRITAIN.** For Great Britain the year 1926 was a difficult one. The Sudan—Egypt—Palestine presented their ever present and uncertain problems. Chaotic, war-troubled China had caused her uneasiness. The Russian situation threatened her Indian possessions and Russian agents were active in their endeavors to spread sedition and undermine the national stability. While working for peace the British were not inclined to fold their arms. Air and sea power and a striking force were to be maintained and a reserve for home defense to make it impossible or very dangerous for any enemy to land on its shores. That was Britain's thought on preparedness, and so the training of "Territorials" went on. By the middle of September 100,000 lads had been under military training and more would have been trained had not the general strike intervened.

In August successful trials were made at Lulworth of a new wireless apparatus—invented by an English engineer officer—by which it was possible for tanks to communicate with each other or with airplanes. The tank officer commanding the unit was to be equipped with a new and more powerful set than the others so as to be able to maintain communication with a base 50 miles away. Fire also could be controlled and directed on many targets. A new service rifle which had been adopted by the British army was a modification of the short model Lee-Enfield. Its improvements were an aperture sight, a heavier barrel, and the discarding of the heavy

nose cap on the former model. The weight complete was to be 8 pounds 9 ounces; calibre .303 remained the same. The new bayonet was to have a triangular blade 8 inches long, weight 6¾ ounces.

**FRANCE.** The morale of the French army was low because both officers and men felt it offered a poor opportunity for a career. According to Monsieur Painlevé this condition was driving the best men out of the army, and according to his letter to the Premier: "The officers are discouraged and are looking for opportunities to leave the service. The best young men no longer are attending the military schools, thus depriving the Army of elements which both morally and technically have made its strength and grandeur for the past fifty years." It was unquestionable that something should be done to maintain the high standard of the French military establishment, and more especially its moral support.

The total effectives of the French army at home and abroad, according to Paris despatches of November 9, would number 31,029 officers and 647,434 enlisted men and 147,300 horses. These figures included 47,418 native Colonials and 96,449 native Africans. Troops in Morocco for frontier patrols and police operation were fixed at 2819 officers, 82,795 men, and 31,438 camels and horses. The Army of the Levant, in Syria, was cut by more than half, totaling 648 officers, 15,087 men, and 5609 animals—a cut due entirely to the fact that the Druse rebellion was practically over.

According to reports from Military Information sources, the unit of combat in the French army was a group of 12 men formed about an automatic rifle, thus getting the collective power of a group. The strength of an infantry company is not now thought of in terms of 185 men or 160 rifles, but it is 12 automatic rifles. The word "squad" is no longer used. The basic component of a group was the automatic rifle crew, composed of five men and a corporal. For each one of these crews was another crew, likewise of five men and a corporal, whose duty was to assist, aid in the advance of, protect, inform, and reconnoitre for the first crew. The second crew was armed with rifles, pistols and grenades. The two crews or groups were commanded by a sergeant. Three groups constitute a section under a lieutenant, and four sections a company under a captain. The French retained their three infantry regiment divisions.

**ITALY.** On March 15, 1926 the King signed the Army Reorganization Bill. By it the number of army corps was increased from 10 to 11 for Italy proper, with additional special organizations for Sicily and Sardinia. The Army corps was to consist of from two to four infantry divisions, one regiment of field artillery, one group of anti-aircraft artillery, and one regiment of engineers. Alpini troops, Bersaglieri, cavalry, heavy artillery and special engineer troops might be assigned to corps. The 30 infantry divisions were to consist of three brigades of three regiments and one regiment of field artillery. Bersaglieri regiments were to be cyclist units armed with machine guns; light and heavy field artillery were to be increased to 30 and 11 regiments respectively. Radio-telegraphists increased to two regiments, one battalion assigned to each army corps. The tank corps organization remained independent. The period

of compulsory service is to be 18 months, and the minimum strength of the army 150,000. Four armies, 10 army corps, 29 divisions; with one army corps for Sicily and one division for Sardinia.

**SPAIN.** The *Diario* published the details of the organization of the Guardia Civil of Spain, showing it to consist of 1245 officers, 26,224 other ranks, and 5557 horses. Although paid by the Ministry of the Interior, its organization, personnel, armament and discipline were administered by the War Department. It is divided into 28 regiments. The corps consisted of 21,000 infantry and 5200 cavalry grouped under command of a Colonel, with battalions commanded by Lieutenant-Colonels.

**RUSSIA.** Late in the year amnesty to all soldiers who fought in the counter-revolutionary army of General Miller, whose forces acted with American troops at Archangel in 1919, had been granted by the Central Executive Committee. Similar amnesties had heretofore been granted to soldiers of the White Army of Wrangel, Petlura, Yudinitch, Kolchack, Denikin and Semnoff. None of them applies to any category of officers or to White soldiers living outside of Russia. Military training for all university students, both men and women, was ordered by the Commissariat of War. All students were required to take 180 hours instruction in Military Science during their regular four years course and two months of field training during the summer. When their university course is finished the men must serve nine months in the Army, or if they prefer one year in the Navy. The women, it was planned, would be exempt from field practice and active service.

The organization of a foreign legion in the Red Army was progressing. The centre of the formation is at Tula, to which place approximately 12,000 foreigners had been transferred from the Red Army. There were five regular battalions, a foreign school for non-commissioned officers, and an artillery division. In Perm, cavalry detachments were equipped with arms of Polish type. In Orenburg were cavalry units of Mohammedan religion. The citizens of the Baltic States formed a separate regiment. Another infantry regiment is formed by citizens of Finland; two brigades of Ukrainians from Eastern Galicia. The destination of the foreign legion was said to be toward the frontiers of Russia and in Turkestan.

**POLAND.** The manoeuvres in the summer at Rembertow near Warsaw, Poland, developed a new kind of a tank for emitting protective smoke from cylindrical reservoirs. Compressed gas from the reservoirs created a curtain in front of the firing line of the infantry, permitting the men to advance without being seen.

**FINLAND.** The Bergmann automatic gun, about the size of the Thompson, though lighter, with magazine holding 25 shells, had been adopted by the Finnish army, but none issued to it as yet. The civil guard only was equipped with it. There were three cyclist battalions in the Finnish army with approximately 1000 men in each. Each battalion has three rifle companies and one machine gun company of six guns. During winter weather these battalions are used as ski battalions.

**JAPAN.** The passage of the General Pre-Conscription Act in April and its going into effect



in July, requiring 200 hours military training per year for all boys between 16 and 19 years of age inclusive, had put over 1,000,000 boys under military instruction. Their military training before being called to the colors was of two kinds: (a) Military training in the schools, compulsory, except in private schools, for all boys above the 6th grade; (b) General pre-conscription voluntary training for all boys between 16 and 20 years of age.

The purpose of this training was without doubt to prepare youths of the nation for war and the correction of practices which led the young men away from the standards of their parents. When he finished, the boy would have had five years of military instruction in the middle schools; three more in college preparatory, and five more in the university; a total of 13 years in all. When called to the colors he would need only field training and firing. Under this system about 70 per cent of all Japanese boys would have had considerable military training by the time they reached the conscription age of 20 years. The Japanese soldier conscript was called in his 20th year. His first seven years and four months were divided between the active period of usually one year 10 months and 20 days, and the First Reserve. The ten year period following the First Reserve was spent in the Second Reserve; after that, service in the First National Army until 40 years of age.

The number of officers in the First Reserve was about 16,000; in the Second Reserve about 14,000. Reserve officers were informed in advance of the duty to which they would be assigned when called to the colors. Although the pre-conscription training was introduced on July 1, 1926, by the end of that month 15,130 schools were giving this training to 1,128,386 youths. By enrolling while pursuing their ordinary academic studies, the students materially shortened their future terms of conscription.

CHINA. The important river port of Kiu-Kiang on the Yang-Tze River had been captured by the Kuomintang forces. General Chiang-Kai-Sek was the southern leader who dominated the Nationalist forces that had been making consistent progress into Central China. With the provinces of Kiang-Si, south Honan and Fui-kien under their control, a very populous and important area had come into the possession of the Southerners. The opposition forces were apparently under the control of General Chang-Tso-Lin of Manchuria, Wu-Pei-Fu of Central China and General Chuang-Feng of Che-Kiang, Anhwei and Kiang-su. At the end of the year there had not been any effective concerted action among them. As General Feng-Yu-Hsiang was an adherent of the Kuomintang Party he was expected to cooperate with General Chiang-Kai-Sek. Chiang's forces were advancing down the Yang-Tze River, apparently with Shanghai as an objective. For the moment the Nationalistic forces were carried away with the propaganda against foreigners, particularly the British. That served to bring recruits to their ranks.

With each Southern Army was assigned a political officer to educate the troops politically—a practice of the Canton Government, which attached great importance to having an army with impeccable Red principles. Severe fighting near Hangchow, capital of Chikiang Province,

about 100 miles south of Shanghai, brought the year to a close. Evidently the move was to force the Northern troops out of Chikiang back on Shanghai. The real objective of the Kuomintang was its recognition as the Government of China. See CHINA, *History*.

UNITED STATES. A study of the reports of the Secretary of War and the Chief of Staff, as well as those of the chiefs of the various branches of the Military Service, showed among other shortcomings that "the effectiveness of the nation's defenses is sadly imperiled." The Secretary of War called attention to the practical nullification of the Defense Act because of the failure of Congress to appropriate for more than 116,000 men instead of the 280,000 authorized, a total unquestionably below the lowest safety mark set by experts on military effectiveness.

The complexities of modern weapons have greatly increased because of the developments of the Great War, according to the Chief of Staff, Maj. Gen. John L. Hines, who was succeeded by Maj. Gen. Charles P. Summerall during November. There are "new and essential branches" in the Army with "many new weapons and technical appliances" incorporated in the older branches. By the continued extension of the skeleton organization of our defensive structure it has become perilously attenuated.

The problem of individual protection from gas has had first priority in the Chemical Warfare Service since the War, and much progress had been made. The problem of protecting enclosed spaces had been employing the attention of the authorities of this Service, for collective protection was important. No satisfactory solution, however, had so far been achieved. Of the compounds for the production of toxic smokes, the Chemical Warfare Service had only adopted three as standard chemical agents, viz: Lewisite, diphenylchlorarsine and diphenylaminochlorarsine, known as D. A. and D. M. They are called toxic smokes because they do not produce their toxic effect by the formation of vapor, but by minute, finely divided solid particles which are liberated in the air, thus forming a true smoke—according to the Medical Research Division of Edgewood Arsenal.

The Chemical Warfare Service was engaged in research and development work in regard to the safe and effective use of industrial poisons. The commercial use and production of toxic chemicals was increasing with especial rapidity. Contacts with the scientific and industrial chemical activities of the country permits the selection of those reserve officers best fitted to carry on in an emergency crisis. Progress during the year 1926 was in connection with the development of defensive methods and equipment, offensive weapons, medical research and investigations undertaken to determine poisonous substances which may be effectively employed for the eradication or control of insect pests. New types of gas masks were being developed. Screening smokes in connection with defensive measures had been developed.

The total strength of the military personnel of the Chemical Warfare Service was on July 1, 1926, 89 officers, two warrant officers, and 399 enlisted men. Of the 89 officers seven were detailed from other branches. Reserve officers, Chemical Warfare Service, totaled 1168 with requirements of 1273 additional. There were five



procurement districts with headquarters at Boston, Pittsburgh, New York, Chicago, and San Francisco, with permanent men functioning as chiefs of districts. Sources of material were located and location of industrial establishments made.

*Cavalry.* The Phillip Standard pack saddles were adopted during the fiscal year 1925, and were being supplied to the cavalry. There have been developed, adopted and supplied cavalry combat pack leads and accessories fitted to these saddles, to such an extent that the Cavalry Division had its entire quota of pack equipment. The Browning automatic rifle had been replaced by the Browning machine rifle, all cavalry organization being equipped with this latter type. During the year 429 cavalry reserve officers received training at posts and camps. There were 39 regular cavalry officers on duty with the cavalry reserves, with the National Guard 48 regular cavalry officers.

From the R. O. T. C. Camps 196 students were commissioned in the Reserve. The War Department study on replacement officers contemplated the annual replacement at 361. It was apparent that this source of supply was not sufficient, and that additional enrollment or more units would be required. With each unit were approximately 60 horses, with a detachment of 12 men to care for horses and equipment; one stable sergeant, 1 horseshoer and 15 privates.

*Field Artillery.* On June 30, 1926, there were 1425 officers in the Field Artillery of the Regular Army, of which 17 were detailed from other arms. Of this total 802 were for duty with units of the Regular Army. There were 9926 reserve officers enrolled on June 30, 1926, a gain of 1027 during the year. The distribution in field grades is in the proportion of 1, 1½ and 5¼ per cent in Colonels, Lieutenant-Colonels and Majors, respectively. There were 744 R. O. T. C. graduates accepting commissions, an increase over previous years. The shortage of horses at the end of the fiscal year was close to 1500.

The 75mm gun Model 1923 had been adopted as a standard type. A 75mm gun, Model 1925-E, undergoing tests at proving grounds, was to go before a Field Artillery Board for service tests. The 105mm Howitzer, Model 1925, was expected to be ready for service tests during the next year. The Model T-1 had been under design since 1925 but was not yet completed. The Caterpillar marks 30 and 60 had been tested and adopted as standard for future procurement. The Fordson Tractor with adaptors was then undergoing tests to determine its suitability for use in the Field Artillery. The Ford cross-country car, which is a Ford chassis equipped with a Warford or Hinckley transmission, had been adopted as standard for the vehicles of motorized Field Artillery units. Coleman trucks were being tested for use of Field Artillery tactical units.

*Coast Artillery.* Under existing mobilization plans there was a shortage of 677 officers and 19,557 enlisted men in this branch of the service. Three anti-aircraft units were established at Fort Tilden, New York; Fort Monroe, Virginia; and Fort Scott, California, respectively. There was no such unit in the central part of the United States. The limitation placed on estimates for the past year resulted in practical cessation of work on approved plans in

most of the defenses of the Continental United States. The Ordnance Department had on hand the guns and majority of carriages to complete the approved plans for long range weapons at the most important harbors. The Corps of Engineers had developed a mobile searchlight designed especially for illuminating aircraft, which was greatly superior both for anti-aircraft and sea-coast use to anything so far produced. Tests of the Star Shell for augmenting the searchlight in illuminating Naval targets were still being undertaken.

*Air.* For the purchase of new aircraft, during the year 1926, funds in the amount of \$4,001,290.62 were obligated for airplanes and spares as follows:

Primary training .....	100
Nieuport .....	1
Pursuit .....	65
Cargo .....	10
Observation .....	35
Amphibians .....	15
Bombardment .....	24
Remodeled—steel fuselages .....	85

Foreign service units were at approximately half their commissioned strength, but with the material available this was sufficient. Within the United States the school and tactical units were short of pilots and observers. On June 30, 1926, there were 47 flight surgeons from the Medical Corps on duty with the Air Corps. During the year 1288 applicants were examined for appointment as flying cadets. Of this number only 362 were found qualified, 254 appointed, 237 sent to airplane training school and 20 to lighter-than-air training. The percentage of the number of students who enter the Primary Flying School of all classes—officers of the Regular Army, Reserves, National Guard and flying cadets—was very small. Experience was demonstrating that some men could learn to fly and others could not, just as some have musical ability and others have not. The problem is to determine some means which will establish with a fair degree of certainty whether or not it is worth while to attempt the training of the candidate—preferably, some time before he enters the class.

For experimental and research engineering there was appropriated for the fiscal year of 1926 \$2,730,000, a decrease of \$350,000 from the year before. There had been no outstanding changes in the trend of airplane development during the year. Most of the production airplanes purchased were of the single bay, externally braced, bi-plane type, with semi-thick wings. There was very little indication of any marked change from this type of structural arrangements. In the Bomber Type there had been a reaction from the single engine type to the twin engine type which would enable the airplane to fly with only one of its engines operating.

A more extensive use of metal for structural parts was being shown in the airplanes received during the year. Duralumin was used, because of its weight, but increased cost, difficulties in fabrication and uncertainty as to resistance to deterioration militated against its more extensive use. Wood was still used for wing structure. The Thomas-Morse Corporation was building under contract five observation air-

planes called the O-6, entirely of metal. The use of metal propellers was becoming more general because of increased efficiency. Twenty-eight lives had been saved in emergencies as the direct result of Army Air Corps developments of the parachute.

There were furnished to the National Guard 49 complete airplanes and 62 airplane engines. Under the policies of the National Defense Act given out by the War Department, much money had been spent in building airdromes near important cities, where Reserve Officers might be given opportunity to fly. This in addition to the aircraft maintained at regular service airdromes for use of Reserve Officers.

Six Air Corps R. O. T. C. units were maintained during the year with an enrollment of 1005. There were only two sources of supply for Reserve Officer Air Corps, the R. O. T. C. units and graduates of the course for flying cadets. The training of flying cadets was limited to 212 annually. Five hundred annually is the normal requirement for replacement after reaching the peace-time objective strength.

**Ordnance.** Civilian personnel on June 30, 1926, amounted to 4757. Civilian engineers working in connection with the Department had developed the manufacture of projectiles from seamless tubing. The 75mm calibre projectile had been produced and successfully tested. These methods were expected to increase production probabilities tremendously, and to decrease time for production in quantity. Development of 37mm gun, Model 1925-E, and 75mm Mortar, Model 1924, material and infantry cart, Model 1925, for use by Infantry, had continued during the year. Final tests had not been conducted. The 75mm gun Mortar, Model 1923-E, tested by the Field Artillery and adopted by the War Department as a standard for manufacture, had a split trail. The 4.7-inch gun material, Model 1921-E, the 155mm Howitzer, Model 1920, and experimental model carriage for mounting interchangeably either the 155mm gun or 8-inch howitzer, were all undergoing tests. The pilot 14-inch gun railway mount, Model 1920, shipped in 1925 on its own wheels to the Pacific Coast, had been emplaced at Fort McArthur, California, on an all-around fire emplacement. Two similar mounts were nearing completion for use on Panama railroads. The service tests of the Caterpillar 30 and the Caterpillar 60 had been made and their adoption as a standard for medium and heavy tractor had been recommended.

**The Signal Corps.** Enlisted men of the Signal Corps operated during the year the deep sea cable between Seattle, Washington, and Alaska, in connection with a net of 37 radio, cable, and telegraph stations scattered over the territory. There were some quarter of a million dispatches during the year, resulting in the payment of \$268,094.32 to the Treasury. The project for the abandonment of the Richardson Trail Telegraph Line between Valdez and Fairbanks, Alaska, to be substituted by radio, was approved by the War Department. When this will go into effect, the last section of the one-time extensive War Department land telegraph system in Alaska will have been completely abandoned. Pigeon lofts were maintained for the training of communication personnel at 18 military posts, with approximately 1200 pigeons on hand. Signal Corps units of the R. O. T. C. were main-

tained at Massachusetts Institute of Technology, Cornell University, Carnegie Institute of Technology, Universities of Michigan, Illinois, Wisconsin, Minnesota, and Texas Agricultural and Mechanical College.

**Active Strength.** The actual strength of the active Army of the United States on June 30, 1926, by classes of personnel, was as follows:

<b>Commissioned officers:</b>	
Regular Army (active list) .....	11,681
Philippine Scouts (active list) .....	98
Retired Regular Army, on active duty ..	185
Retired Philippine Scouts, on active duty ..	18
Reserve, on active duty .....	210
Emergency (World War non-Regular), undergoing treatment for physical reconstruction .....	1
<b>Total Commissioned Officers .....</b>	<b>12,143</b>
<b>Warrant Officers:</b>	
Regular Army (active list) .....	1,325
Retired Regular Army, on active duty ....	2
<b>Total Warrant Officers .....</b>	<b>1,327</b>
<b>Enlisted Men:</b>	
Regular Army (active list) .....	112,856
Philippine Scouts (active list) .....	7,072
Retired Regular Army, on active duty ....	27
Reserve, on active duty .....	18
<b>Total Enlisted Men .....</b>	<b>119,973</b>
<b>Grand total .....</b>	<b>133,443</b>

In addition to all of the foregoing, there were 673 Army nurses (498 Regular and 175 Reserve), 30 contract surgeons, and 822 United States Military Academy Cadets, making altogether 134,968 individuals in the military service of the United States on that date. Of the 133,443 commissioned officers, warrant officers, and enlisted men accounted for above, 94,561 were serving in the Continental United States, 14,433 in Hawaii, 12,189 in the Philippines, 8645 in the Canal Zone, 1161 in Porto Rico, 1015 in China, 363 in Alaska, 9 in Europe (attached to the Graves Registration Service), and 1067 were either en route from one country to another or were serving as military attachés in various foreign countries. During the fiscal year 230 persons were accepted for appointments as commissioned officers in the Regular Army and Philippine Scouts, and 187 commissioned officers resigned, 68 were retired, 17 were discharged, 7 were dismissed, 3 were dropped as absent without leave, and 58 (including two retired and five Reserve officers on active duty) died.

**Reserve Corps.** The strength of the officers' Reserve Corps increased from 95,154 on June 30, 1925, to 103,829 on June 30, 1926,—a net gain of 8675. During the fiscal year 12,205 appointments were made and 3530 members of the corps were separated from the service. Of the latter, 507 resigned, 686 were discharged, 312 died, 84 accepted appointments in the Regular Army, 1562 appointments terminated, and 379 appointments were either declined or canceled. Of the officers appointed, 4842 were Reserve Officers' Training Corps graduates of the school year ending in 1926 and 299 were graduates of the "Blue" Course at Citizens' Military Training Camps held during the summer of 1925. On June 30, 1925, there were 421 Reserve

Officers on active duty. During the ensuing fiscal year 15,817 Reserve Officers were placed on active duty, 16,023 were relieved from active duty, 5 were killed as the result of accidents, leaving 210 Reserve Officers on active duty on June 30, 1926. During the same period the strength of the Enlisted Reserve Corps increased from 5115 to 5775, principally in the Infantry and Air Service sections. On June 30, 1925, there were two enlisted reservists on active duty, 718 were called to active duty for 15 days training during the fiscal year, and 702 were relieved from active duty, leaving 18 on active duty on June 30, 1926.

For several years, as the general public had become more impressed with the importance of adequate national defense, there had been a steadily increasing enrollment in the Reserve Officers' Training Corps. During the fiscal year 1925 it became evident that demands for training were rapidly out-growing both facilities and appropriations. Surplus stocks from which free issues had been made to the Reserve Officers' Training Corps were depleted and the consequently increased per capita cost made it imperative that measures be taken to reduce the enrollment to such numbers as could be trained with the funds appropriated. It was estimated that at the existing rate of growth the enrollment for the fiscal year 1926, if not limited, would reach 135,000, a number considerably in excess of that which could be adequately handled with available personnel and funds. Corps area commanders were accordingly instructed early in July to take measures to insure that the initial fall enrollment, fiscal year 1926, should not exceed the initial fall enrollment fiscal year 1925, and to conserve the funds allotted with the view of carrying out the entire annual programme, including the summer camps.

On June 30, 1926 there were 323 units of the Reserve Officers' Training Corps, with a total enrollment of 106,778, in existence at 223 civilian educational institutions throughout the United States, of which 223 were senior units, with an enrollment of 68,553, and 100 were junior units, with an enrollment of 38,225. During the fiscal year commissions as second lieutenants in the Reserve Officers' Training Corps were tendered to 4842 graduates of the second year advanced course and 920 others, who were under 21 years of age or who did not desire appointment at the time, received certificates which entitled them to appointment at any time within five years from date of graduation. Fifty-six camps for the further practical instruction of members of the Reserve Officers' Training Corps were maintained during the summer of 1926, for a period of six weeks, at 34 Army posts throughout the United States, with a total attendance of 7636.

During the summer of 1925 42 camps were conducted at military posts and camps in various parts of the United States to provide for the military instruction and training of the civilians, selected warrant officers and enlisted men of the Regular Army with a view to their appointment as Reserve Officers or non-commissioned officers. The total attendance at these camps was 33,914. Commissions in the Officers' Reserve Corps were tendered to 299 graduates of the highest, or "Blue" course, and 94 others received certificates of eligibility but were not commissioned on account of being under age.

Approximately 49 per cent of the total authorized peace strength of the Regular Army—5625 officers and 58,370 enlisted men—was engaged in connection with the training of other elements of the Army of the United States during the summer training camp season of the past year. During the remainder of the year 4342 officers and 35,025 enlisted men of the Regular Army, approximately 30 per cent of its total authorized peace strength, was similarly engaged at one time or another. During the fiscal year 1926, approximately 15,000 officers of units of the Organized Reserves received tours of active instruction duty. Their units were trained with organizations of the Regular Army, of the National Guard, at Citizens' Military Camps, at separate local unit camps and at combined unit camps. For the first time, Reserve units received instruction by being associated with National Guard organizations. As a result, the officers of both components made favorable reports on this method and suggested further development throughout the United States of the associate training of Organized Reserves and National Guard. This plan afforded associate training to many more Reserve organizations than could otherwise be accommodated by the limited personnel and facilities of the Regular Army.

There were 105,769 officers commissioned in the Officers' Reserve Corps, and within the limits of the United States 93,843, a gain of 7332 over 1925. There were 6757 Federally recognized National Guard Officers, and 3450 enlisted men of the United States Army holding commissions in the Officers' Reserve Corps. Of the total number 65,487 were in the combat branches and were divided as follows: General officers—84; Infantry officers—30,599; Cavalry—3825; Field Artillery—10,379; Coast Artillery—4412; Air Corps—6982; Engineers—6884; Signal—2332;—comprising 62.4 per cent of the total commissioned. Of the Staff branches there were 10,964 Medical; 4389 Dental; 1066 Veterinary; 514 Sanitary; and 1590 Medical Administrative,—a total of 18,523. Thirty-four camps with a total estimated attendance of 7300 students were held for the Reserve Officers' Training Corps during the six weeks following the close of the last academic year.

The estimates as submitted by the President in his annual message and the budget message totaled for the War Department for military purposes, including the Panama Canal, \$306,722,142 and showed an increase of \$12,000,000. Of this increase \$7,000,000 came from returns from sales of surplus property, and \$5,000,000 for the Air Corps. The direct provision for the support of the army was \$269,155,068,—practically the identical amount as the previous year. The average enlisted strength was to be 115,000, daily ration cost based on .3574 cents; and 12,000 officers. Estimate was made for 12,572 Reserve officers for a period of two weeks and 352 for from one month to one year; for the attendance of 30,000 men at C. M. T. Camps, for the enrollment of 116,141 students in R. O. T. C. units, and for keeping the National Guard at an average strength of 180,000.

*Air.* The net results of Congressional action in adopting the Morrow Board policies, were the change of the name of the service to "Air Corps"; representation on the General Staff; two additional brigadier generals; temporary

rank in higher grade; special aviation medal; training reserve officers who may qualify as pilots, with provision for enlisted men as pilots; a five-year development programme; and extra flight pay.

The new United States Army semi-rigid dirigible, *R. S.-1*, was launched from hangar at Scott Field, Illinois, on January 8, and made a successful flight. This "blimp" was propelled by 4300 horsepower Liberty motors, was 282 feet long, had a gas capacity of 755,500 cubic feet of gas, and carried 9 officers and men in its crew.

Three types of auto-rifles underwent tests at the Infantry School. The Grand rifle, the Thompson gun, and the Pedersen gun were tested; all were designed for operation on the semi-automatic or self-loading principle, requiring a squeezing of the trigger for each shot. The first is primer operated, firing calibre .30 Springfield cartridges with five in a clip. The Thompson gun operates on the blow-back principle, in which the pressure of the explosion on the breech mechanism is used; it also fires calibre .30 Springfield cartridges with five to a clip. The Pedersen gun operates on the blow-back principle, with a positive breech-locking device; it has a smaller calibre and has 10 cartridges to the clip. Rifle and automatic tests at the Infantry School, according to a member of the Department of Experiment, indicated that a represented airplane can be hit consistently by a rifle platoon of average shooting ability. A simple sight for both weapons is needed, so that the aiming point could be the object instead of an indefinite point in the sky ahead of the target.

**MILITARY TERRITORY OF THE NIGER.** A territory under the governor-general of French West Africa (q.v.). Capital, Zinder.

**MILK.** See DAIRYING; FOOD AND NUTRITION.

**MILLER, HENRY.** American actor and manager, died April 10, at New York City. He was born in London, Feb. 1, 1860, and when 11 years old, came to America with his parents, settling in Toronto, Canada, where he received a public-school education. He made his first appearance on the stage in 1879 in *Amy Robart*, and after a brief experience in Modjeska's company he went to New York in 1880 and appeared in minor Shakespearean rôles at the Booth Theatre with Adelaide Neilson. Six years later he joined Daniel Frohman's Lyceum Company as leading juvenile. In 1893 he became a member of Charles Frohman's Empire Theatre Stock Company and remained there as leading man until 1896, playing, among other parts, John Worthing in *The Importance of Being Earnest* and Michael Faversham in *Michael and his Lost Angel*. After leaving the Empire Company he made his first appearance as a star at the Garden Theatre, New York, in 1897, in *Heartsease*. He starred in *The Master* in 1898; and created the leading rôle in *The Only Way* in 1899. In 1903 he joined Margaret Anglin in a series of co-star performances, playing Dick Dudgeon in *The Devil's Disciple*, Armand Duval in *Camille*, and (in 1906) Stephen Ghent in William Vaughn Moody's *The Great Divide*. After touring America he made his first appearance in England in this play in 1909. Thereafter he appeared in various plays under his own management, including *Her Husband's Wife* (1910), *The Rainbow* (1912), with Ruth Chatterton, and with her also, in 1913, in *Daddy Long Legs*. In 1918,

he opened Henry Miller's Theatre in New York with *The Fountain of Youth*, later producing *A Marriage of Convenience*, first with Billie Burke and then with Ruth Chatterton as the Comtesse. After this he produced *Molière*, playing the leading rôle, and *The Famous Mrs. Fair*, creating the rôle of Mr. Fair and playing it until April, 1922, with Blanche Bates in the title rôle. In this year he produced *La Tendresse* with Ruth Chatterton as co-star. This was followed by his appearance in the title rôle of *Pasteur* in 1923, and the production of *The Changelings* in the same year. Jointly with J. Hartley Manners he wrote *Zira*, and played the leading part in it in 1906.

**MINERALOGICAL CHEMISTRY.** See CHEMISTRY.

**MINERALOGY.** The year 1926 was a notable one in respect to the large number of new mineral species which had been added to science during this period. It is significant, however, that almost without exception these have been found in localities where conditions have been previously recognized as favorable to the formation of rare combinations of elements. The famous locality at Långban, Sweden, probably the most productive locality for rare minerals in the world, has yielded three new species to its already long list. A new beryllium oxide, occurring in white hexagonal crystals of the same group as zinc oxide, has been named *bromelite*. A new lead ferrate, near the rare mineral plumboferrate in composition but differing from the latter in exhibiting strong magnetism, has been named *magnetoplumbite* in recognition of this property. It occurs in hexagonal pyramidal crystals which are black with a brilliant metallic lustre. A basic lead manganate, which is the third new mineral from Långban, occurs in small black monoclinic crystals. This has been named *quenselite*. The Norberg mining district, in Central Sweden, is to be credited with two new mineral species. *Norbergite*, a new magnesium fluo-silicate, is found in pink white masses in the Östanmossa iron mine. *Fluoborite*, a magnesium borate with fluorine, occurs in colorless, hexagonal, prismatic crystals in the Tallgruvan mine. Another portion of the world which has in recent years yielded many new mineral species is the section of the Belgian Congo that lies in the vicinity of Katanga. Two new species have been recently discovered in this region. A hydrated copper nitrate with chlorine occurs with the silver and copper deposits of Likasi, in mats of light blue needle-like crystals. This has been named *buttgenbachite* in honor of Prof. Henri Buttgenbach, who has done much to develop the Belgian Congo minerals.

A mineral believed to be new has been found at Kasolo, Katanga, in small-range radial aggregates, and since it differs in properties from other Katanga species the name *droognansite* has been assigned to it. A new bismuth sulpho-salt, called *warthait*, has been found in an iron mine at Vasko, Krasso-Szorény, Roumania, in metallic, steel-gray, fibrous crystals radially grouped. Also from Roumania comes a new silver ore mineral, called *fielyite*. This is a silver lead sulphantimonide, which occurs in steel gray prismatic crystals at Kisbanya, Szatmar. The volcanic rocks of the Lipari Islands, which have long been a fruitful source of rare minerals have now yielded a new lead sulphobismuthide, which occurs in aggregates of lead

gray crystals in the fumeroles of Vulcano, Lipari Islands, and has been named *cannizzarite*. A new selenide of lead, copper, cobalt and nickel from Colquechaca, Peru, has been named *penroseite* in honor of Dr. Richard A. F. Penrose, Jr. The neighborhood of Pintados, Tarapaca, Chile, notable as a locality rich in sulphates has yielded a new hydrous aluminium sulphate rich in chlorine to which the name *trudellite* has been given in honor of Mr. Harry W. Trudell, an amateur of Philadelphia. The compact masses of this mineral are amber yellow in color. It is highly deliquescent.

**MINERAL PRODUCTION AND RESOURCES OF THE UNITED STATES.** In 1925 the mineral industries of the United States shared in the general industrial prosperity, and the total value of mineral products was stated by the United States Bureau of Mines in its preliminary estimates at \$5,696,000,000 as compared with \$5,305,800,000 in 1924, or an increase of 7 per cent. With the exception of the prolonged suspension of anthracite mining due to the strike which lasted into 1926 (see COAL), there were no major disturbances, and the 1925 production would probably have approached the

1923 value which marked the peak of production, if the 1920 inflation of values had been discounted. The total value of metallic production in 1925 was \$1,380,100,000, an increase of 12 per cent over \$1,232,330,000 in 1924. Nonmetallic mineral products other than fuels produced in 1925 were valued at \$1,293,900,000, an increase of 11 per cent over \$1,169,100,000 in 1924. The output of mineral fuels, coal, petroleum, natural gas, and natural-gas gasoline, in 1925 had an aggregate value of \$3,016,000,000 or 4 per cent more than the value of \$2,898,630,000 in 1924. The bituminous coal mining industry in 1925 showed an increase in production over 1924 of approximately 40,000,000 short tons, the estimated production for the year being 522,967,000 short tons as compared with 483,687,000 short tons in 1924. The accompanying statistical summary prepared by the United States Bureau of Mines, indicates the mineral products of the United States in the year 1924-25. Detailed discussion of the various important minerals and their production are discussed in separate articles such as COAL, COPPER, GOLD, IRON AND STEEL, SULPHUR, etc. See also MINES, BUREAU OF.

## MINERAL PRODUCTS OF THE UNITED STATES, 1924-25 \*

Product	Quantity	1924 Value	Quantity	1925 Value
<b>Metallic</b>				
Aluminum ..... pounds..	.....	\$37,607,000	.....	\$36,430,000
Antimonial lead <sup>b</sup> ..... short tons (2,000 pounds)	20,787	3,376,713	19,667	3,785,547
Antimony <sup>c</sup> ..... do..	2,763	596,800	2,624	918,400
Bauxite ..... long tons (2,240 pounds)	347,570	2,187,990	316,540	1,988,250
Cadmium ..... pounds..	129,328	77,597	( <sup>d</sup> )	( <sup>d</sup> )
Chromite ..... long tons..	288	1,140	108	2,105
Copper, <sup>e</sup> sales value ..... pounds..	1,634,249,192	214,087,000	1,674,869,886	237,832,000
Ferroalloys ..... long tons..	497,244	43,249,948	616,222	53,048,100
Gold <sup>f</sup> ..... troy ounces..	2,528,900	52,277,000	2,411,987	49,860,200
Iron:				
Ore <sup>g</sup> ..... long tons..	52,083,375	151,807,105	63,924,763	160,796,886
Pig ..... do..	31,064,129	665,078,972	36,814,702	739,816,333
Lead (refined), <sup>h</sup> sales value ..... short tons..	566,407	90,625,000	654,921	113,956,000
Manganese ore (35 per cent or more Mn) <sup>i</sup> ..... long tons..	58,348	1,318,771	98,824	1,857,769
Manganiferous ore (5 to 35 per cent Mn) <sup>i</sup> ..... long tons..	898,468	2,739,254	1,448,054	3,752,486
Mercury:				
Metal ..... flasks (75 pounds net)	10,061	691,090	9,174	762,616
Ore ..... short tons..	70,000	( <sup>j</sup> )	65,000	( <sup>j</sup> )
Nickel (values at New York City) ..... do..	191	114,908	272	169,664
Ores (crude), tailings, etc.:				
Copper ..... do..	49,432,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Copper-lead and copper-lead-zinc ..... do..	220,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Dry and siliceous (gold and silver) ..... do..	8,979,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Lead ..... do..	8,569,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Lead-zinc ..... do..	13,356,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Zinc ..... do..	3,160,000	( <sup>k</sup> )	( <sup>j</sup> )	( <sup>k</sup> )
Platinum and allied metals (value at New York City) ..... troy ounces..	66,007	7,611,319	49,643	5,661,809
Silver ..... do..	65,407,186	43,822,814	66,155,424	45,911,864
Tin (metallic equivalent) ..... short tons..	7	7,028	9	9,934
Titanium ore:				
Ilmenite ..... do..	4,769	( <sup>k</sup> )	5,566	89,000
Rutile ..... do..	.....	.....	46	11,500
Tungsten ore (60 per cent concentrates) ..... do..	565	287,000	1,191	755,500
Uranium and vanadium ores ..... do..	( <sup>k</sup> )	( <sup>k</sup> )	12,093	841,240
Zinc, <sup>e</sup> sales value ..... do..	515,831	67,058,000	555,631	84,456,000
Total value of metallic products (approximate) .....		1,232,330,000		1,380,100,000

\* In this general statement certain of the figures represent shipments rather than quantity mined, and some of the figures for 1925 are estimates. The reader is referred to the sections on the various mineral products for information in greater detail than it seems practicable to give here.

<sup>b</sup> From both domestic and foreign ores.

<sup>c</sup> Content of antimonial lead. Values excluded from metallic totals as the values of the antimony are included in the antimonial lead values.

<sup>d</sup> Figures not yet available. Estimate of value included in total value of metallic products.

<sup>e</sup> Product from domestic ores only.

<sup>f</sup> Value, \$20,871,834,825,823 an ounce.

<sup>g</sup> Value not included in total value.

<sup>h</sup> Including ore used for fluxing.

<sup>i</sup> Figures showing values not available.

<sup>j</sup> Figures for 1925 not yet available.

<sup>k</sup> Value included in total value of metallic products. Bureau of Mines not at liberty to publish figures.

<sup>l</sup> Canvases discontinued by U. S. Geological Survey after 1920. Figures obtained through cooperation with Bureau of the Census.

## MINERAL PRODUCTS OF THE UNITED STATES, 1924-25—Continued

Product	Quantity	1924 Value	Quantity	1925 Value
<i>Nonmetallic</i>				
Arsenious oxide . . . . . short tons . .	14,453	2,655,015	12,317	1,193,039
Asbestos . . . . . do . . . . .	300	42,526	1,258	51,700
Asphalt:				
Native . . . . . do . . . . .	562,867	3,958,339	584,850	4,148,400
Oil # . . . . . do . . . . .	1,158,456	\$ 14,305,007	1,206,700	\$ 15,305,760
Barytes (crude) . . . . . do . . . . .	196,332	1,540,744	218,648	1,631,886
Borates (colemanite and naturally oc-				
curing borax) . . . . . short tons . .	116,110	3,183,910	113,700	3,085,660
Bromine . . . . . pounds . . . . .	2,038,804	594,685	1,566,130	488,406
Calcium-magnesium chloride . . . . . short tons . .	58,791	1,164,848	67,870	1,386,639
Cement . . . . . barrels (376 pounds net)	147,466,010	266,053,267	158,213,000	285,732,000
Clay:				
Products . . . . .		\$ 415,779,378		( <sup>m</sup> )
Raw # . . . . . short tons . . . . .	3,691,119	\$ 11,507,536	3,900,000	\$ 12,000,000
Coal:				
Bituminous # . . . . . short tons . .	488,686,538	1,062,626,000	522,967,000	1,046,000,000
Pennsylvania anthracite . . . . . long tons . .	78,506,127	477,230,852	55,193,883	327,664,512
Coke # . . . . . short tons . . . . .	44,269,605	\$ 244,041,561	50,702,000	( <sup>p</sup> )
Diatomaceous (infusorial) earth and				
tripoli . . . . . short tons . . . . .	91,639	1,088,326	88,798	962,270
Emery . . . . . do . . . . .	2,195	19,756	769	5,907
Feldspar (crude) . . . . . long tons . .	204,772	1,509,339	184,100	1,306,300
Fluorspar . . . . . short tons . . . . .	124,979	2,451,131	113,669	2,052,342
Fuller's earth . . . . . do . . . . .	177,994	2,632,342	206,574	2,923,965
Garnet for abrasive purposes . . . . . do . . . . .	8,290	674,176	8,429	712,853
Gems and precious stones . . . . .		( <sup>o</sup> )		( <sup>o</sup> )
Graphite:				
Amorphous . . . . . short tons . . . . .	4,071	38,533	3,536	39,640
Crystalline . . . . . pounds . . . . .	1,800,325	48,977	2,257,250	56,721
Grindstones and pulpstones . . . . . short tons . .	38,184	1,666,669	37,340	1,705,939
Gypsum . . . . . do . . . . .	5,042,629	42,724,507	5,075,000	47,849,000
Lime . . . . . do . . . . .	4,073,000	39,596,423	4,510,000	42,530,000
Magnesite (crude) . . . . . do . . . . .	120,100	1,041,300	120,660	1,432,700
Mica:				
Scrap . . . . . do . . . . .	4,709	87,242	4,500	90,000
Sheet . . . . . pounds . . . . .	1,460,897	212,035	1,460,900	212,100
Millstones . . . . .		30,125		23,080
Mineral paints:				
Natural pigments # . . . . . short tons . .	( <sup>p</sup> )	( <sup>p</sup> )	( <sup>p</sup> )	( <sup>p</sup> )
Zinc and lead pigments # . . . . . do . . . . .	173,859	25,711,159	201,825	28,574,131
Mineral waters . . . . . gallons sold . .	( <sup>o</sup> )	( <sup>o</sup> )	( <sup>o</sup> )	( <sup>o</sup> )
Natural gas . . . . . M cubic feet . .	1,141,521,000	253,856,000	1,164,000,000	255,000,000
Natural-gas gasoline . . . . . gallons . .	938,861,000	82,238,000	1,104,900,000	117,000,000
Oilstones, etc. . . . . short tons . . . . .	1,056	258,943	820	271,224
Peat . . . . . do . . . . .	55,469	395,470	53,112	369,000
Petroleum . . . . . barrels (42 gallons)	713,940,000	1,092,683,000	755,852,000	1,270,000,000
Phosphate rock . . . . . long tons . .	2,867,789	10,252,083	3,481,819	11,545,678
Potash (K <sub>2</sub> O) . . . . . short tons . . . . .	21,880	842,618	25,802	1,204,024
Pumice . . . . . do . . . . .	43,651	190,253	40,380	179,020
Pyrites . . . . . long tons . . . . .	160,096	645,262	170,081	650,448
Salt . . . . . short tons . . . . .	6,803,115	25,747,048	7,397,498	26,162,361
Sand:				
Glass . . . . . do . . . . .	2,169,899	3,718,973	2,436,000	3,700,000
Molding, building, etc. and gravel . . . . .	154,060,164	93,294,142	159,564,000	102,300,000
Sand-lime brick . . . . . thousands . .	283,417	\$ 3,354,503	308,703	\$ 3,716,654
Silica (quartz) . . . . . short tons . . . . .	23,761	203,177	25,444	205,376
Slate . . . . . do . . . . .	727,700	11,776,016	724,200	12,575,326
Stone . . . . . do . . . . .	103,184,120	161,870,113	114,310,000	171,420,000
Sulphur . . . . . long tons . . . . .	1,537,345	25,000,000	1,857,970	29,000,000
Sulphuric acid (60° Baumé) from copper				
and zinc smelters . . . . . short tons . .	874,953	6,996,000	1,006,915	7,512,568
Talc and soapstone . . . . . do . . . . .	203,821	3,515,556	188,885	2,144,017
Total value of nonmetallic products (ap-		4,067,780,000		4,309,900,000
proximate) . . . . .				
<i>Summary</i>				
Total value of metallic products . . . . .		1,232,380,000		1,380,100,000
Total value of nonmetallic products (exclusive of				
mineral fuels) . . . . .		1,169,100,000		1,293,900,000
Total value of mineral fuels . . . . .		2,898,630,000		3,016,000,000
Total value of "unspecified" (metallic and non-				
metallic) products (partly estimated) # . . . . .		5,740,000		\$ 6,000,000
Grand total approximate value of mineral products		5,305,800,000		5,696,000,000

<sup>m</sup> Figures not yet available. Estimate of value included in total value of nonmetallic products.

<sup>n</sup> Includes brown coal and lignite, and anthracite mined elsewhere than in Pennsylvania.

<sup>p</sup> No canvass. Estimate of value included in total value of nonmetallic products.

<sup>q</sup> Canvass discontinued after 1915. Value of iron ore sold for paint included under last item ("un-specified").

<sup>r</sup> Sublimed blue lead, sublimed white lead, leaded zinc oxide, and zinc oxide.

<sup>s</sup> Figures for 1925 represent talc only. Value of soapstone is included in total value of nonmetallic products.

<sup>t</sup> Includes for 1925 the value of bismuth, cadmium sulphide and other cadmium compounds, chatas (\$379,000), flint lining for tube mills and pebbles for grinding (\$48,762), iron ore sold for magnets, iron ore sold for paint (\$140,986), lithium minerals (\$58,500), natural magnesium chloride (\$911,440), natural magnesium sulphate (\$841,670), calcareous marl (\$187,839), greensand marl (\$179,788), mineral soap, molybdenum (\$450,080), monasite (\$120), pyrite radio crystals, selenium, silica sand and sandstone (finely ground) (\$1,321,250), sodium salts (carbonate, bicarbonate, sulphate, and trona) from natural sources (\$1,007,140), tellurium, zircon (\$87,860), and an estimate of the value of miscellaneous mineral products, statistics for which are not collected annually by the Bureau of Mines.

**MINES, UNITED STATES BUREAU OF.** The fiscal year ending June 30, 1926, was the first complete year in which the Bureau of Mines had functioned in the Department of Commerce. Conspicuous in the year's activity was the continuation of the educational campaign designed to decrease the death and injury rates among the million miners of the United States. Substantial progress was achieved in the movement for the rock-dusting of bituminous coal mines as a preventive of explosions, a great number of the larger mines having adopted this safety measure. The Bureau continued its intensive efforts in the teaching of safety to the miner. During the year 28,041 miners were trained in first-aid and mine rescue methods, an increase of 3866 over the number trained in the previous year. This training was conducted in 33 States and in Alaska.

Mine-safety studies were continued in the experimental coal mine at Bruceton, Pa., the only coal mine in the world devoted exclusively to Government safety research. Tremendous explosions of coal-dust were frequently staged at this mine and vivid demonstrations of the efficiency of rock-dust for limiting or preventing such explosions are given. Cooperation was continued with the Mines Safety Research Board of the British Mines Department at the Bureau's experiment station at Pittsburgh and in the Eskmeals experimental gallery in England. A new type of gas mask, devised to afford protection in air against all gases, vapors and smokes was developed. A carbon monoxide recorder developed at the Pittsburgh station gave excellent service in a number of fields. This delicate instrument gives warning of the presence of this deadly gas in tunnel atmospheres of four parts in ten thousand parts of air, and indicates much lower concentrations.

The Bureau continued its study of the causes of mine fires and explosions, furnishing reports to the mine operators following investigations of disasters at their mines. Investigations on the use of electrical equipment in mines and the use of flame safety-lamps and gas-detecting apparatus were continued.

Chemists at the Pittsburgh experiment station developed a new respirator which is believed to be superior to other devices as a means of protecting wearers from injurious dusts encountered in mining and other industries. Studies conducted in cooperation with the United States Public Health Service and the American Society of Heating and Ventilating Engineers were affording information relative to temperatures and air-movement conditions which afford the best safety and efficiency conditions in mines and factories. As the result of studies by Bureau engineers, definite increases in the production of lump coal in mines have been attained through more efficient use of explosives. The use of liquid oxygen explosives in the mining and quarrying industries has been investigated.

Studies were conducted looking toward the utilization of vast deposits of low-grade iron ores in Minnesota, Alabama and elsewhere. As an aid to this study, the Bureau operated at its Minneapolis station the only experimental blast furnace in the world capable of producing conditions encountered in the large commercial furnaces. Improved metallurgical practices designed to utilize enormous deposits of

low-grade lead, zinc and copper ores were being developed at the Bureau's different experiment stations located in the mining districts of the West.

During the year a survey was made in several States of leakage in natural gas transmission lines, and immense savings were found possible by testing and repairing the lines. In the Powell oil field in Texas, an increased production of 1,000,000 barrels of oil was attained from wells repaired under the supervision of Bureau engineers. The Bureau also studying the problem of increasing the recovery of oil from depleted sands, it being estimated that 80 per cent of the oil was left underground under existing methods of production. The Bureau continued its studies looking toward the more efficient utilization of fuels in industrial plants and in homes. Problems of this nature studied included refractories in boiler furnaces; the clinkering properties of coal; pulverized coal for marine boilers; properties of coke; coal washing; boiler water conditioning; and the spontaneous combustion of coal. An economic Branch was established for the study of economic problems in the mineral industries. This new branch was giving attention to the uses of coal, coal reserves, prices, distribution, consumption, stocks and marketing.

**MINIMUM WAGE.** In view of the hostile attitude of the Supreme Court, the protagonists of minimum wage legislation were largely marking time in 1926. There was a great deal of sentiment for the adoption of the Massachusetts plan, according to which a board publicly recommends wage scales and depends on the power of publicity to enforce them. This plan was endorsed by Governor Smith of New York in his message to the legislature prepared at the close of 1926 and submitted on January 5 following. Governor Smith pointed out that while "the United States Supreme Court has held that the State is without power to impose a penalty on an employer for failing to pay the amount of the living wage," this was "no reason why the State should stand by idly and take no action that would, at the least, tend to discourage the employment of women in industry at starvation wages."

Some hope was also expressed that sooner or later the Supreme Court would reverse its stand and make it unnecessary for States to adopt the Massachusetts plan. Following the Supreme Court's endorsement of the Kansas anti-strike law (see under STRIKES), the *Wichita Beacon* pointed out that of the two provisions of the Kansas Industrial Court Act, the limitation of the strike, and the minimum wage, the court had upheld the former and had condemned the latter. The principle of the industrial court as a solution for industrial unrest, it added, would not become firmly established until the minimum wage law were restored to favor. The *Beacon* expresses the views of former Governor Allen of Kansas, who was responsible for the Industrial Court Act.

**MASSACHUSETTS.** Seventeen decrees establishing minimum wage scales in various industries were in effect in Massachusetts, according to the report of the division of the minimum wage of the Massachusetts department of labor and industries. The report is for the year ending Nov. 30, 1925, and was made public late in 1926. These decrees had not been overthrown by the

decisions of the United States Supreme Court because they are technically advisory. The division makes no attempt at enforcement except to carry out inspections and to advertise in the press cases of non-compliance. Inspection was carried out in the case of 14 of the decrees, and in nine cases non-compliances were advertised, the report shows.

Since the creation of the minimum wage division (July 1, 1913), 32 decrees have been issued. All the decrees made prior to Dec. 1, 1919, had been superseded. The oldest in effect in 1925 was that applying to men's clothing and raincoats, which went into effect Feb. 1, 1920. The other decrees in existence in 1926, were enacted as follows: 1920, 2; 1921, 1; 1922, 6; 1923, 1; 1924, 1; 1925, 3; and 1926, 2. In making revisions the division advanced rates in all cases except two. In women's clothing an order dated May 15, 1922, fixed \$14 as the minimum weekly wage instead of \$15.25 as in the order of May 6, 1920. The rate for the paper box industry was also revised downward, the order of May 15, 1922, substituting the weekly wage of \$13.50 for the amount of \$15.50 fixed in the order of May 26, 1920. The highest wage fixed by the minimum wage division was \$15.40, for women engaged in office and other building cleaning. This rate was effective Feb. 1, 1921. For men's clothing the wage was \$15. Of the other wage rates, none were higher than \$14, and none were lower than \$13.

**MINING AND METALLURGICAL ENGINEERS, AMERICAN INSTITUTE OF.** An organization founded in 1871 and incorporated under the laws of New York State in 1905, "to promote the Arts and Sciences connected with the economic production of the useful minerals and metals and the welfare of those employed in these industries." It is made up of 25 local sections and has 40 affiliated societies at colleges throughout the country. There are four classes of membership: members are men who have been practicing engineers for at least six years; associates, men interested in or connected with mining, geology, metallurgy, or chemistry, but not practicing engineers; junior associates, students in engineering schools; honorary members, these elected by unanimous vote of the Board of Directors. On Jan. 1, 1926, there were 8602 members, distributed as follows: honorary, 17; members, 6563; associates, 865; junior associates, 1157. The income for 1925 was \$202,314.61. In addition to the monthly meetings of the local sections, the annual meeting, a four-day convention, is held on the third Tuesday in February in New York City, and a visit is made in the fall to some important mining or metallurgical centre in the United States or abroad. The Institute publishes *Transactions*, an annual containing the best papers of the year on mining and metallurgical subjects; *Mining and Metallurgy*, a monthly bulletin; the *Year Book*, which constitutes a "Who's Who" in the profession; and special volumes from time to time. In connection with three other societies the Institute maintains the Engineering Societies Library and an employment bureau. The headquarters are in the Engineering Societies Building, 33 West 39th Street, New York City.

**MINNESOTA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,387,125. The estimated

population on July 1, 1926, was 2,651,000. The capital is St. Paul.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	4,343,000	147,662,000	\$82,691,000
	1925	4,136,000	148,896,000	88,382,000
	1926	4,582,000	129,162,000	48,915,000
Oats	1925	4,770,000	200,340,000	62,105,000
	1926	2,091,000	2,741,000	88,922,000
Hay, tame	1925	2,258,000	3,989,000	43,879,000
	1926	1,967,000	24,588,000	30,243,000
Wheat, spring	1925	2,098,000	27,209,000	87,276,000
	1926	187,000	3,272,000	3,926,000
Wheat, winter	1925	170,000	3,060,000	4,162,000
	1926	1,807,000	32,675,000	16,664,000
Barley	1925	1,098,000	82,940,000	17,129,000
	1926	367,000	4,954,000	3,765,000
Rye	1925	448,000	5,824,000	4,135,000
	1926	910,000	8,554,000	16,851,000
Flaxseed	1925	740,000	7,400,000	17,020,000
	1926	298,000	29,800,000	34,270,000
Potatoes	1925	276,000	26,772,000	41,229,000

\* tons.

**MINERAL PRODUCTION.** Much the greater part of the State's total mineral product year by year, measured in terms of value, is derived from iron ore, of which the State is the leading producer. There were shipped from the State's mines 38,022,237 long tons of iron ore, in 1925, and in 1924, 31,076,114 long tons; in value \$96,083,485 in 1925 and \$93,311,092 in 1924. Only a small proportion of the ore was used for the production of pig iron within the State, the pig iron product being 276,240 long tons in 1925 and 189,033 long tons in 1924. Coke production in connection with the iron industry was important. There were produced 514,764 short tons of coke in 1924 and in 1923, 695,824 short tons; in value \$4,903,891 in 1924 and \$5,104,330 in 1923. Stone production was 804,280 short tons in 1924 and 701,210 short tons in 1923; in value, \$4,220,658 in 1924 and in 1923, \$4,281,687. Clay products had a value in 1924 of \$1,675,204 and in 1923 of \$2,031,408. The total value of the State's mineral products, duplications eliminated, was \$107,844,680 in 1924; in 1923, \$174,105,328.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$31,500,334. Their per capita rate was \$12.37, as against \$12.34 in 1924 and \$8.15 in 1917. Their total included \$9,038,547, for education, apportioned to minor State divisions. Expenses totaling \$3,703,304 for interest on debt and \$13,842,147 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$49,045,785. For highways was expended the sum of \$14,449,371, of which \$3,835,885 was for maintenance and \$10,613,486 for construction. Interest was paid to the amount of \$1,463,069 on county reimbursement road bonds not included in the State debt.

Revenue receipts of the State were \$55,191,283, or \$21.66 per capita. They exceeded by \$19,987,645 the total payments except those for permanent improvements, and furthermore exceeded by \$6,145,498 the total with these included. Surplus of receipts resulted in purchase of investments. Property and special taxes formed 30.3 per cent of the total revenue in



1925. Their per capita rate was \$6.57 in 1925, \$4.19 in 1924 and \$3.66 in 1917. Earnings of the general departments and compensation for officials' services furnished 9.1 per cent of the 1925 revenue; business and non-business licenses, 40.4 per cent. State license receipts were derived chiefly from taxes on incorporated companies and from the licensing of motor vehicles. Litigation over back taxes on iron ore led to a diminution in receipts from that source.

The net indebtedness of the State on June 30, 1925, was \$14,717,257, or \$5.78 per capita, as against \$6.57 in 1924 and 61 cents in 1918. The assessed valuation of property subject to State tax was \$2,357,576.43. The State tax levy was \$11,497,617, or \$4.51 per capita. In addition to the indebtedness shown above, the State is obligated to pay principal and interest upon county reimbursement bonds, issued by counties for road construction.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 8787. Some 16 miles of new first track were constructed in 1926. The Great Northern system abandoned 4 miles of line between Holman and Coleraine.

**EDUCATION.** Consistent improvement in the length of the school term was reported by J. M. McConnell, State commissioner of education, commenting on the year's progress. He also noted a rise in the attendance figures. With regard to teacher standards, school organization and curriculum, he reported that the State schools had made progress. There were enrolled in the public schools of the State in 1925-1926, 549,899 pupils, of whom 454,638 were in the common schools and 95,261 in the high schools. Expenditures for education in the public schools of the State attained a total of \$58,128,771. Salaries of teachers averaged in the graded elementary and high schools, \$195.71 a month for men and \$130.36 for women; in the ungraded elementary rural schools, \$113.73 for men and \$114.36 for women.

**CHARITIES AND CORRECTIONS.** The State Board of Control, created in 1901, exercised in 1926 control over 18 State institutions, including hospitals and asylums for the insane, institutions for the feeble minded, epileptics, blind and deaf, special schools, reformatories and the State prison. It also supervised (starting with 1925) 14 county tuberculosis sanatoria, and conducted several convict industries; appointed county welfare boards; cared for child delinquents and defectives; licensed maternity homes and infant caring agencies; safeguarded interests of illegitimate children; investigated petitions for child adoption; gave home aid and instruction to the blind; and administered the soldiers' welfare fund. An act of 1925 charged it with the sterilization of defectives of certain types. The chief insane institutions under its control and the numbers of inmates on June 30, 1926, were as follows: Anoka Asylum, 1006; Hastings Asylum, 963; Willmar Asylum, 670; Fergus Falls Hospital, 1611; Rochester Hospital, 1386; St. Peter Hospital, 1395; Asylum for Dangerous Insane, 141. Schools and colonies were: School for Feeble Minded, 953; Colony for Epileptics, 60; State Training School, 350; Home School for Girls, 299; School for Blind, 99; School for Deaf, 261; State Public School (for dependent and neglected children), 363. Criminal institutions were: Reformatory (for

males), 826; Reformatory for Women, 80; Prison, 1230. The State Sanatorium for Consumptives had 263 inmates; the Hospital for Crippled Children, 233.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, Theodore Christianson, Governor of the State, was reelected on the Republican ticket, to serve the term beginning January, 1927. With him were elected the rest of the Republican State ticket. All ten of the Republican candidates for the U. S. House of Representatives were likewise elected.

Other State officers elected in November, to take office in 1927 were: Lieutenant Governor, W. I. Nolan; Secretary of State, Mike Holm; State Auditor, Ray P. Chase; State Treasurer, Julius A. Schmahl; Attorney General, Clifford L. Hilton; Associate Justice of the Supreme Court, Homer B. Dibell. A constitutional amendment to promote forestation of private and of public lands, rendering it possible to fix in advance the annual tax on forested land for the term of growth or for a period of years, and a yield tax to be paid when the timber should mature, was adopted by popular vote.

According to the U. S. Department of Commerce census figures for 1925, given out late in 1926, the two-year total of the manufactured products of the city of St. Paul was \$192,366,323, and represented an increase of \$42,011,248 over the corresponding total for the two years ending with 1923. Minneapolis manufactured products were reported as attaining for the two years ending with 1925, a total of \$345,875,440, and for the two years ending with 1923, \$338,329,208. Activity in State road construction was maintained, the concreting of State Highway 27, an important north-and-south route, being completed.

**OFFICERS.** Governor, Theodore Christianson; Lieutenant-Governor, W. I. Nolan; Secretary of State, Mike Holm; State Treasurer, Edward W. Stark; Auditor, Ray P. Chase; Attorney-General, Clifford L. Hilton; Commissioner of Education, James M. McConnell.

**JUDICIARY.** Supreme Court: Chief Justice, Samuel B. Wilson; Associate Justices: Homer B. Dibell, Andrew Holt, James H. Quinn, Royal A. Stone.

**MINNESOTA, UNIVERSITY OF.** A State institution of higher education at Minneapolis, Minn.; founded in 1851. The 1926 fall enrollment included 10,816 students of collegiate grade, and there were 4867 registered for the summer session. There were 910 members on the faculty. The endowment of the University amounted to \$7,852,074.03, and the income for the year ending June 30, 1926, including State appropriations, totaled \$8,212,400.70. The library contained 465,000 volumes. During the year an Institute of Child Welfare was established with funds given by the Laura Spelman Rockefeller Memorial and amounting to \$250,000 over a period of five years. At the end of the year the Institute was conducting a study of the pre-school child. The following new buildings were completed during the year: administration building, at a cost of \$476,795; the main building of the Grand Rapids Agricultural School, costing \$75,000; an addition to the Minnesota Union, at a cost of \$45,794. Additional campus and experimental plots cost \$333,000. Gifts received during the year included: a gift of insurance policies amounting to \$80,000 by Dr. George

G. Eitel, to found the George G. Eitel Scholarship Fund; a gift of \$100,000 from W. H. Eustis; and a gift of \$10,250 annually for five years by the Bureau of Social Hygiene to be used in conducting investigations in coöperation with the Women's Coöperative Alliance of Minneapolis. President, Lotus D. Coffman, Ph.D., LL.D.

#### MISSIONS, MISSIONARY ACTIVITIES.

See religious denominations such as CONGREGATIONALISM, METHODIST EPISCOPAL CHURCH, etc.

**MISSISSIPPI.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,790,618. Owing to a decrease between 1910 and 1920 no later estimates have been made. Capital, Jackson.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	3,768,000	1,930,000 <sup>a</sup>	\$188,175,000
	1925	3,516,000	1,991,000 <sup>a</sup>	
Corn	1926	1,918,000	36,826,000	30,197,000
	1925	1,977,000	35,586,000	33,451,000
Hay, tame	1926	425,000	499,000 <sup>b</sup>	7,984,000
	1925	593,000	399,000 <sup>b</sup>	6,956,000
Potatoes	1926	12,000	852,000	1,534,000
	1925	11,000	737,000	1,474,000
Sweet potatoes	1926	60,000	6,240,000	5,928,000
	1925	62,000	5,952,000	5,952,000
Oats	1926	63,000	1,386,000	915,000
	1925	85,000	1,615,000	1,260,000

<sup>a</sup> bales, <sup>b</sup> tons.

**MINERAL PRODUCTION.** The mineral production of the State, which is not large, underwent no important alteration. Sand and gravel, the leading product in respect to annual output value, totaled 2,442,911 short tons in 1924 and 2,772,149 short tons in 1923; in value, \$1,134,288 in 1924 and in 1923, \$1,229,809. Clay products attained a value of \$955,328 for 1924 and of \$878,684 for 1923. The total value of the State's mineral products in 1924 was \$2,090,422; in 1923, \$2,163,343.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the year ending Sept. 30, 1925, were \$10,341,867. Their rate per capita was \$5.78, as against \$6.04 in 1924 and \$2.54 in 1917. The total included \$3,660,297 for education, apportioned among minor State divisions. Expenses totaling \$856,090 for interest on debt, and \$4,752,288 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$15,950,245. For highways was expended the sum of \$5,563,901, of which \$1,092,781 was for maintenance and \$4,471,120 for construction.

Revenue receipts of the State were \$16,192,630, or \$9.04 per capita. They exceeded by \$4,994,673 the total payments except those for permanent improvements, and furthermore exceeded by \$242,385 the total with these included. Property and special taxes formed 42.2 per cent of the total revenue in 1925, as against 40.9 per cent in 1924 and 52.8 per cent in 1917. Their per capita rate was \$3.81 in 1925, \$3.44 in 1924 and \$1.55 in 1917. Earnings of the general departments and compensation for officials' services furnished 8.7 per cent of the 1925 revenue; business and non-business licenses, 19.6 per cent. State license receipts were derived chiefly from

privilege taxes, taxes on incorporated companies and on sales of gasoline and from the licensing of motor vehicles.

The net indebtedness of the State on Sept. 30, 1925, was \$16,785,709, or \$9.37 per capita, as against \$9.61 per capita in 1924 and \$3.03 per capita in 1917. The assessed valuation of property subject to State tax was \$738,182,734. The State tax levy was \$5,905,462, or \$3.30 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4170. There was constructed in 1926, 15 miles of new first track.

**EDUCATION.** A general tendency in the State toward rendering ampler financial support to schools, on the part of local units, as well as the State and counties, was noted by W. F. Bond, State Superintendent of Education. The Mississippi Education Association established an accrediting commission to formulate standards of qualification for elementary school teachers, and of adequacy for school furniture and curriculum. There arose a movement for the standardization of grammar school courses, prompted by the opinion that grammar school standards had suffered relative neglect in the course of the preceding movement to elevate the level of high school instruction.

**LEGISLATION.** The State Legislature convened on January 5, in regular biennial session. A bill introduced in the House and later passed by the State Senate prohibited teaching in tax-supported schools the theory that man was descended, or had ascended, from lower animals, and providing fines of from \$100 to \$500 for infraction, as well as cancellation of the teaching contracts of offenders. The bill was in large measure modeled on that of Tennessee, which governed the course of the latter State in the Scopes case. Governor Whitfield signed the measure May 11.

**OFFICERS.** Governor, Henry L. Whitfield; Lieutenant-Governor, Dennis Murphy; Secretary of State, Walker Wood; State Treasurer, Ben S. Lowry; Auditor, George D. Riley; Attorney-General, Rush H. Knox; Superintendent of Education, W. F. Bond.

**JUDICIARY.** Supreme Court: Chief Justice, Sydney Smith; Associate Justices: W. D. Anderson, James G. McGowan, George Ethridge, J. B. Holden, and W. H. Cook.

**MISSISSIPPI, UNIVERSITY OF.** A State institution of higher education at University, Miss.; founded in 1848. The total enrollment for the autumn of 1926 was 1078, distributed as follows, college of liberal arts, 603; school of law, 75; school of engineering, 75; school of medicine, 60; school of pharmacy, 59; school of commerce and business administration, 215. There was also a school of education, the students of which, however, count their education courses toward a degree in one of the other schools. The faculty numbered 51, not including 2 instructors, 3 teaching fellows, and about 30 student assistants. Summer school work, interrupted by the World War, was resumed in 1926 with a registration of 196. It was expected that this number would be more than doubled in 1927. The legislative appropriation for the current session, including approximately \$42,000 interest on the \$700,000 University funds in the State Treasury, was about \$170,500, and the student fees for the same

period amounted to over \$60,000. There were approximately 40,000 volumes in the library. A new department of rural economics and sociology was added in 1926. The 1926 legislature appropriated an extra \$150,000 for a new chapel, which was under construction during the year. Chancellor, Alfred Hume, C.E., D.Sc.

**MISSOURI. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 3,404,055. The estimated population on July 1, 1926, was 3,498,000. The capital is Jefferson City.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	6,404,000	174,189,000	\$118,449,000
	1925	6,741,000	198,860,000	137,213,000
Hay, tame	1926	3,147,000	3,569,000 "	48,182,000
	1925	3,272,000	3,622,000 "	46,362,000
Wheat, winter	1926	1,391,000	21,282,000	26,390,000
	1925	1,696,000	22,387,000	33,580,000
Wheat, spring	1926	12,000	192,000	240,000
	1925	8,000	128,000	191,000
Oats	1926	2,077,000	41,540,000	17,447,000
	1925	1,923,000	49,998,000	21,999,000
Cotton	1926	473,000	253,000	
	1925	507,000	294,000	
Potatoes	1926	81,000	6,480,000	11,016,000
	1925	76,000	4,332,000	9,747,000
Sweet potatoes	1926	10,000	1,120,000	1,456,000
	1925	10,000	950,000	1,568,000

" tons.

**MINERAL PRODUCTION.** Lead, of which the State was the leading producer, constituted Missouri's most valuable mineral product yielding in 1924, 189,929 short tons, and in 1923, 169,743 short tons; in value \$30,388,640 in 1924, and in 1923, \$23,764,020. Cement production was 8,371,000 barrels in 1925 and in 1924, 7,871,621 barrels; in value, cement shipments totaled \$14,822,000 in 1925 and \$13,515,267 in 1924. Coal was produced to the amount of 2,694,215 tons in 1925 and of 2,480,880 in 1924; and to the value of \$8,281,000 in 1925 and in 1924 of \$8,154,000. Clay products were valued in 1924 at \$16,338,161 as against \$17,903,774 in 1923. Stone production was 2,320,010 short tons in 1924 and 2,134,910 short tons in 1923; in value, \$4,961,333 in 1924 and in 1923, \$4,345,526. Zinc production fell in 1924 to 12,920 short tons from 18,265 short tons in 1923; and in value, to \$1,679,600 in 1924 from \$2,484,040 in 1923. Barytes was produced in considerable quantity, 77,189 short tons in 1924, as against 81,701 tons in 1923, with a value of \$604,390 in 1924 and \$629,097 in 1923. The total value of the State's mineral production, duplications eliminated, was \$81,054,122 in 1924; in 1923, \$79,201,473.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Dec. 31, 1925, were \$23,577,512. Their rate per capita was \$6.80, as against \$1.26 in 1924 and \$3.31 in 1917. The total included 5,324,004 for education, apportioned among the minor State divisions. Expenses totaling \$1,945,690 for interest on debt and \$27,122,013 for permanent improvements, added to payments for maintenance and operation of the State departments, made the total of State payments \$52,645,215. For highways was expended the sum of \$28,853,076, of which \$2,654,801 was for maintenance and \$26,198,275 for construction.

Revenue receipts of the State were \$36,370,245, or \$10.49 per capita. They exceeded by \$10,847,043 the total payments except those for permanent improvements, and were \$16,274,970 less than the total with these included. Payments in excess of revenue receipts were met from the proceeds of debt obligations. Property and special taxes formed 31.2 per cent of the total revenue in 1925, as against 34.7 per cent in 1924 and 36.3 per cent in 1917. Their per capita rate was \$3.28 in 1925, \$3.16 in 1924 and \$1.40 in 1917. Earnings of the general departments and compensation for officials' services furnished 15.5 per cent of the 1925 revenue; business and nonbusiness licenses, 38.5 per cent. State license receipts were derived chiefly from taxes on incorporated companies and sales of gasoline and from the licensing of motor vehicles. The gasoline sales tax became operative in 1925. The net indebtedness of the State on Dec. 31, 1925, was \$55,676,711, or \$16.06 per capita, as against \$12.51 per capita in 1924 and \$2.01 in 1917. A bond issue of \$15,000,000 for highways, to meet increased road construction payments, caused the sharp rise in the per capita debt occurring in 1925. The assessed valuation of property subject to State tax was \$4,613,899,269. The State tax levy was \$4.613,899, or \$1.33 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 8051. Switching and terminal companies had 428 miles of tracks. New construction in 1926 aggregated 3 miles of first track and 21 miles of second track. There were abandoned 8 miles of line near Flat River and 16 miles of line of the St. Louis and San Francisco near Harlan Junction.

**EDUCATION.** The political campaign in the State brought forth indorsements of the merits of the State's chief needs in the educational field, from both the chief parties. Democratic and Republican platforms alike contained expressions favoring larger State support for public schools and for the State educational institutions, and affirming the need of a retirement fund for teachers. In 1926 according to official figures the school population of the State was 917,085. Of this number, 723,167 were enrolled in the schools. Common school enrollment was 612,509; that in high schools, 110,658. The year's expenditure for public education was \$52,917,105. Salaries of teachers, by the month, averaged, for men, \$121; for women, \$87; for both, \$99.

**CHARITIES AND CORRECTIONS.** Chief among the charitable and correctional institutions of the State are the following: State hospitals (four); Missouri Colony for the Feeble Minded and Epileptic; Missouri State Sanitarium; Confederate Home; State Federal Soldiers' Home; Missouri State Penitentiary; Missouri Reformatory; Industrial Home for Girls; Industrial Home for Negro Girls. The State Board of Charities and Corrections issues reports biennially.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, Harry B. Hawes, Democratic candidate for U. S. Senator for the six year term beginning Mar. 4, 1927, was elected, defeating Senator George H. Williams, who ran for reelection on the Republican ticket. Twelve Democrats and four Republicans were elected to the U. S. House of Representatives. A refer-

endum proposal for the repeal of the laws of the State for the enforcement of alcoholic prohibition was defeated. The electorate approved an act creating a Workmen's Compensation Commission and a system of industrial compensation for injuries, to go into effect Jan. 9, 1927.

Charles A. Lee was reelected State Superintendent of public schools for the ensuing four-year term, and Ernest S. Gantt was elected a judge of the State Supreme Court for the term of 10 years. A referendum proposition that a workmen's compensation law enacted by the State general assembly receive popular approval was carried at the polls.

The finance committee and city manager of Kansas City, Mo., recommended to the city council in December the passage of an ordinance to tax sales of cigarettes within the city, and to require packages of cigarettes when sold to bear tax stamps to the amount of the tax. In St. Louis the city plan commission offered plans for improvement of the river front and reclamation of a portion of the downtown district by the construction of a double deck street 100 feet broad and two miles long, the upper deck to run without intersections from the eastern boundary of the business district, and the whole to cost \$20,000,000.

**OFFICERS.** Governor, Sam A. Baker; Lieutenant-Governor, Phil A. Bennett; Secretary of State, Charles U. Becker; Auditor, L. D. Thompson; Treasurer, C. Eugene Stephens; Attorney-General, North T. Gentry; Superintendent of Public Schools, Charles A. Lee.

**JUDICIARY.** Supreme Court: Chief Justice, David E. Blair; Associate Judges: Walter W. Graves, William T. Ragland, Robert F. Walker, John Turner White, Frank E. Atwood.

**MISSOURI, UNIVERSITY OF.** A State institution of higher education at Columbia and Rolla, Mo.; founded in 1839. The enrollment for the first semester of 1926-27 at Columbia and Rolla was 4321, of whom 394 were men and 1310 women. This enrollment was distributed as follows: agriculture, 317; arts and science, 1880; business and public administration, 169; education, 379; engineering, 437; mines, 413; fine arts, 97; graduate, 267; journalism, 253; law, 136; medicine, 86; short course in agriculture, 51. The total enrollment for the 1926 summer session was 1587, of whom 697 were men and 890 women. The total annual enrollment of all classes of students was more than 9000. There were 400 members on the faculty. The endowment of the University was approximately \$2,500,000, and the total income from all sources a little over \$3,500,000. The University received a gift of \$75,000 toward the erection of a law building, as a memorial to Lee H. Tate by his parents, Mr. and Mrs. Frank R. Tate of St. Louis. The State appropriated \$75,000 to be used in connection with this gift. A gift of \$50,000 from Joseph K. Gwynn, together with a State appropriation for a like amount was made for the erection of a Home Economics Building. The libraries contained approximately 326,000 volumes. President, Stratton Duluth Brooks, LL.D.

**MOFFETT, CLEVELAND (LANGSTON).** American author and newspaper man, died in Paris, October 13. He was born at Boonville, N. Y., Apr. 27, 1863, and educated at Yale University, graduating in 1883. From 1887 to 1891 he was on the European staff of the *New York Herald*

and 1891-1892 in its New York office. After a year as foreign editor of the *New York Recorder* he devoted himself to writing books, plays, and magazine stories and articles, with the exception of a brief period in 1908-9 when he was Sunday editor of the *New York Herald*. His books included: *Real Detective Stories*, 1898; *Careers of Danger and Daring*, 1901; *A King in Rags*, 1907; *The Battle*, 1909; *Through the Wall*, 1909; *The Bishop's Purse* (in collaboration with Oliver Herford), 1913; *The Mysterious Card*, 1913; *The Hand of Mystery*, 1913; *The Conquest of America*, 1916; *How to Live Long and Love Long*, 1917; *The War Beautiful*, 1917; *Possessed*, 1919; *Glint of Wings* (in collaboration with Virginia Hall); also prose poems, *A Woman's Creed*, *The Litany of the Men*, *A Vision of Christmas*, 1917, *Glorious France*. Among his plays were: *Money Talks*, produced 1906; *Playing the Game*, produced in 1907; *The Battle*, produced in 1908; *For Better for Worse*, produced in 1910; *Greater Than the Law*, 1912. He also translated *Cosmopolis*, by Paul Bourget, in 1894.

**MOHAMMED VI, VAHID-ED-DIN, EFFENDI.** Former Sultan of Turkey, died May 16, in exile at San Remo. He was born Jan. 12, 1861, the youngest son of Sultan Abdul-Medjid, and brother of Sultans Abdul Hamid II and Mohammed V. Abdul Hamid, who reigned from 1876 to 1909, liked him and because he was only third in the order of succession he occasioned his brother little anxiety. Allowed relative liberty, Mohammed's education was much neglected, and he grew up with merely a fair knowledge of Arabic and a slight understanding of French, together with an ignorance of politics. Until the suicide of Yusuf Izzeddin in 1916 made him heir presumptive, he spent his days in the management of his large estates, rather than in affairs of state. On July 3, 1918, at the age of 57, he succeeded his brother Mohammed V, with the title of Mohammed VI, but did not support any active policy. At this time the military power of Turkey was practically exhausted by the great war, and within a few months it surrendered. Mohammed made several unsuccessful attempts to improve relations between the Turks and the occupying forces. However, the Greek occupation of Smyrna ended his hopes of reconciliation and the growth of the national resentment at the cession of Smyrna aroused his alarm. He raised a small army to drive the Kemalists, or Nationalists, from Ismid, but when, in 1920, Mohammed signed the Treaty of Sèvres, consenting to the dismemberment of Turkey and proposing to put her principal governmental departments under foreign control, his troops refused to defend him against Kemal Pasha. From this time on he was merely a political figurehead, and on Nov. 3, 1922, the Grand National Assembly declared him deposed. He took refuge on the British battleship *Malaya*, which conveyed him to Malta, and later he went to France and Switzerland, where he lived in comparative poverty, without, however, ceasing to hope that he might regain his position.

**MOLLUSCA.** See Zoölogy.

**MONACO, mōn'à-kō.** A principality on the Mediterranean coast, surrounded on the land sides by the French department of Alps Maritimes. Area, eight square miles; population, according to the census of 1913, 22,956. It is chiefly known for its gambling resort, Monte

Carlo (population in 1913, 9627). Other towns are Monaco (2247) and La Condamine (11,082). Under the constitution of Jan. 7, 1911, the government consists of the prince assisted by a council of state and a national council elected by universal suffrage. The ruler was Prince Louis II, born July 12, 1870, who succeeded his father, Prince Albert, June 26, 1922.

**MONET**, mō'nā', CLAUDE. French landscape painter, died December 5 at Giverny, near Paris. He was the leader of the Impressionist school, which took its name from his painting "Impression, Rising Sun," exhibited in 1874. Monet was born in Paris on Nov. 14, 1840, and when he was five years old his family moved to Havre, where he neglected school or spent his time there in making caricatures and drawings in his books. At this time he became acquainted with Boudin, a marine painter, from whom he learned to love and understand nature. At 16, having earned 2000 francs by the sale of caricatures, for which he was now well-known in Havre, he set out for Paris to study. When he was twenty he entered the army and was assigned to a regiment in Algeria, where he spent two years. Sent home as an invalid, he entered the atelier of the classicist Gleyre, but withdrew because of lack of sympathy with the style of work done there. He next met Jongkind, to whom he owed his final training in observation. In the beginning he was strongly attracted by the work of Courbet and Corot, and to some extent by the Barbizon school. He was also somewhat indebted to Manet and the Japanese. However, he followed no master but drew his inspiration largely from nature, apparently caring little for subject, detail, or composition, and aiming chiefly to reproduce the effects of light and air and to portray the fleeting aspect of things. For over 20 years he struggled against ridicule and hostile criticism before his ideas were accepted. Part of that time he spent in Holland, England, and Italy, and finally settled at Giverny, France. While in England he was befriended by Daubigny, and was introduced by him to Durand-Ruel, who exhibited many of his works in his gallery. Examples of his earlier style include "The Breakfast" (Luxembourg), "Camille," "Fontainebleau Forest" (1866), "Vessels Leaving Havre" (1868), and many landscapes produced before 1875, nine of which are in the Moreau-Nelaton collection, Musée des Arts Decoratifs (Louvre). Among his later works may be mentioned: "Bordighera"—the town in the half distance, led up to by a foliated foreground; "The Orchard"—a landscape vibrating with light and showing the possibilities of his use of pure color; "The Sun in a Fog, Waterloo Bridge" (1904); "Palazzo Dario, Venice" (1908). Nine of his paintings in the Luxembourg include "The Church of Vetheuil," "The Rocks of Belle Isle," and "Saint-Lazare Station." Monet's best work, however, was done in his series of variations of the same themes in different light conditions, as in "Rouen Cathedral" (Luxembourg), and "Views of the Thames." The last years of his activity were spent at his home at Giverny, making numerous studies of the same scenes in varying lights and at different seasons of the year, which some critics regard as his best work. At the age of 80 he began to be troubled with cataract and was much hampered in his work, but after three operations he was able to continue work on a mural design of water lilies which he was paint-

ing as a gift to the French government, to be hung in the Orangeries at the Tuileries Gardens, a gallery established by the government in 1922 to be a permanent museum of Monet's works. Consult: Théodore Duret, *Le Peintre Claude Monet* (Paris, 1878), English translation, *Monet and the French Impressionists* (London, 1912); J. C. Van Dyke, in *Modern French Masters* (New York, 1896); W. H. Fuller, *Monet and his Paintings* (ib. 1899).

**MONEY**. The table on page 492 from the annual report of the Director of the United States Mint shows the distribution of the stock of money in the United States on June 30, 1926, in comparison with the totals for June 30, 1924, Nov. 1, 1920, July 1, 1914, and Jan. 1, 1879.

**MONEY AND MONEY RATES**. See FINANCIAL REVIEW.

**MONGOLIA**. A vast and indefinite tract of territory lying to the west of Manchuria. Area, about 1,875,000 square miles, although some authorities place it as low as 1,367,600 square miles. Population, variously estimated at 750,000 to 2,000,000. Capital and chief town, Urga. It is inhabited by nomadic Mongol and Kalmuk tribes, but latterly the Chinese have immigrated in considerable numbers. The chief occupation is stock raising, and the principal exports are furs, skins and hides, horns, and wool. The soil is naturally fertile but needs irrigation to be productive. Gold, iron, copper, silver, and tin, are found, but are not worked extensively. Since 1917 there has been a motor car freight service across the Gobi desert. The trip takes three days and is only feasible in the summer.

**MONOPLANES**. See AERONAUTICS.

**MONTANA**. POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 548,889. The estimated population on July 1, 1926, was 695,000. The capital is Helena.

**AGRICULTURE**. The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Wheat, winter	1926	448,000	6,272,000	\$6,711,000
	1925	224,000	3,248,000	4,320,000
Wheat, spring	1926	3,147,000	38,393,000	43,384,000
	1925	3,026,000	31,773,000	44,482,000
Hay, tame	1926	1,239,000	1,968,000	20,664,000
	1925	1,232,000	2,046,000	20,460,000
Barley	1926	179,000	4,296,000	2,749,000
	1925	156,000	3,276,000	2,359,000
Flaxseed	1926	171,000	804,000	1,487,000
	1925	244,000	1,098,000	2,416,000
Potatoes	1926	35,000	2,975,000	3,570,000
	1925	35,000	3,780,000	6,048,000
Oats	1926	635,000	16,510,000	8,750,000
	1925	605,000	13,612,000	7,214,000
Rye	1926	107,000	1,284,000	963,000
	1925	80,000	1,000,000	740,000
Corn	1926	359,000	3,949,000	3,633,000
	1925	399,000	6,584,000	6,255,000

\* tons.

**MINERAL PRODUCTION**. The State in respect to copper, its chief mineral product, exceeded Utah in 1925 and attained the rank of the second copper producer. Its mine production of copper in 1925 was 268,910,847 pounds, and the smelter output was 270,604,676 pounds as against 249,322,394 pounds in 1924. The value of the copper output in 1924 was \$32,638,290 and in 1925 approximately \$38,000,000. The total value of gold, silver, copper, lead and zinc produced in Montana in 1925 according to the United States Bureau of Mines was \$61,044,006. Quantities

LOCATION, OWNERSHIP, AND PER CAPITA CIRCULATION OF MONETARY STOCK JUNE 30, 1926

Kind of money	Stock of money <sup>a</sup>	Money held in the Treasury			Money outside of the Treasury		
		Amount held in trust against gold and silver certificates (and Treasury notes of 1890)	Reserve against United States notes (and Treasury notes of 1890)	Held for Federal reserve banks and agents	All other money	Total	In circulation
							Amount Per capita <sup>c</sup>
Gold coin and bullion ..	\$4,500,976,937	\$3,713,832,294	\$1,680,510,609	\$1,717,348,235	\$161,784,564	\$787,144,643	\$445,283,850
Gold certificates .....	(1,680,510,609)	.....	.....	.....	.....	1,680,510,609	1,057,371,129
Standard silver dollars ..	533,491,184	465,291,706	.....	.....	.....	623,139,480	51,576,880
Silver certificates .....	(457,903,515)	.....	439,259,819	.....	6,031,887	16,622,598	877,741,074
Treasury notes of 1890 ..	(1,356,304)	.....	.....	.....	.....	457,903,515	1,356,304
Subsidiary silver .....	288,923,000	6,147,966	.....	.....	6,147,966	282,775,034	270,072,955
United States notes .....	346,681,016	3,835,118	.....	.....	3,835,118	342,845,898	294,915,527
Federal reserve notes .....	1,993,205,700	916,527	.....	.....	916,527	1,994,289,173	1,892,629
Federal reserve bank notes ..	5,713,148	134,743	.....	.....	134,743	5,578,405	5,452,708
National-bank notes ..	702,669,244	17,759,852	.....	.....	17,759,852	684,909,392	651,476,522
Total, June 30, 1926	8,373,660,229	4,207,918,206	2,139,770,428	1,717,348,235	196,610,657	6,305,512,451	4,894,652,117
Comparative totals:							
June 30, 1925 .....	8,221,191,543	4,174,598,940	2,059,798,696	1,752,744,435	208,434,823	6,106,391,299	4,736,464,287
Nov. 1, 1920 .....	8,326,338,267	2,406,801,772	696,854,926	1,206,341,990	350,626,530	6,616,390,721	5,628,421,732
July 1, 1914 .....	3,738,288,871	1,843,432,323	1,507,178,879	.....	186,273,444	3,402,015,427	3,402,015,427
Jan. 1, 1879 .....	1,007,064,463	212,420,402	21,602,640	.....	90,817,762	816,266,721	816,266,721

<sup>a</sup> Includes United States paper currency in circulation in foreign countries and the amount held by the Cuban agencies of the Federal reserve banks. Does not include silver bullion (a potential monetary asset) to the value of \$8,438,120, nor nickel and bronze coin, the value of which depends almost exclusively on the Government impression rather than intrinsic metallic value or a specific reserve.

<sup>b</sup> Includes money held by the Cuban agencies of the Federal reserve banks of Boston and Atlanta.

<sup>c</sup> Population of continental United States (estimated) June 30, 1926, 115,523,000; June 30, 1925, 114,104,000; Nov. 1, 1920, 107,491,000; July 1, 1914, 99,027,000; Jan. 1, 1879, 48,231,000.

<sup>d</sup> Does not include gold bullion or foreign coin outside of vaults of the Treasury. Federal reserve banks, and Federal reserve agents.

<sup>e</sup> These amounts are not included in the total since the money held in trust against gold and silver certificates and Treasury notes of 1890 is included under gold coin and bullion and standard silver dollars, respectively.

<sup>f</sup> The amount of money held in trust against gold and silver certificates and Treasury notes of 1890 should be deducted from this total before combining it with total money outside of the Treasury to arrive at the stock of money in the United States.

<sup>g</sup> This total includes \$18,406,917 of notes in process of redemption, \$151,662,551 of gold deposited for redemption of Federal reserve notes, \$8,605,429 deposited for redemption of national-bank notes, \$4,065 deposited for redemption of additional circulation (act of May 30, 1908), and \$6,603,490 deposited as a reserve against postal savings deposits.

NOTE.—Gold certificates are secured dollar for dollar by gold held in the Treasury for their redemption; silver certificates are secured dollar for dollar by standard silver dollars held in the Treasury for their redemption; United States notes are secured by a gold reserve of \$154,188,886 held in the Treasury. This reserve fund may also be used for the redemption of Treasury notes of 1890, which are also secured dollar for dollar by standard silver dollars held in the Treasury. Federal reserve notes are obligations of the United States and a first lien on all the assets of the issuing Federal reserve bank. Federal reserve notes are secured by the deposit with Federal reserve agents of a like amount of gold or of gold and such discounted or purchased paper as is eligible under the terms of the Federal Reserve Act. Federal reserve banks must maintain a gold reserve of at least 40 per cent, including the gold redemption fund which must be deposited with the United States Treasurer, against Federal reserve notes in actual circulation. Lawful money has been deposited with the Treasurer of the United States for retirement of all outstanding Federal reserve bank notes. National-bank notes are secured by United States bonds except where lawful money has been deposited with the Treasurer of the United States for their retirement. A 5 per cent fund is also maintained in lawful money with the Treasurer of the United States for the redemption of national-bank notes secured by Government bonds.

produced were, of gold, 82,122 fine ounces, silver, 13,158,191 fine ounces, lead, 37,530,644 pounds, zinc, 115,316,922 pounds. Manganese and man-ganiferous ore was produced in 1925 to the quantity of 76,188 long tons, and to the value of \$1,411,001. Petroleum production rose notably, to 4,029,000 barrels in 1925, from 2,815,000 barrels in 1924, with a value of \$7,500,000 (estimated) in 1925, as against \$3,754,000 in 1924. Arsenious oxide was produced on an important scale. The total value of the State's mineral products, duplications eliminated, was in 1924 \$70,631,806.

The value of the gold, silver, copper, lead, and zinc produced from Montana mines in 1926, according to an estimate of the Bureau of Mines, was \$57,988,000. The value of the gold output decreased to \$1,185,000 in 1926. The mine output of silver decreased slightly to 12,570,000 ounces, but the value decreased relatively more, to about \$7,844,000, as the average price of silver decreased. Most of the silver was produced from copper ore as in the past, but an increasing quantity resulted from the milling of zinc ore and lead-zinc ore at Butte and Anaconda. The copper output decreased to 256,725,000 pounds, and the value to about \$35,428,000. The Anaconda Copper Mining Co. produced most of the copper, from mines at Butte. The production of lead increased to 41,700,000 pounds, valued at \$3,461,000. The output of zinc recovered from ore mined in Montana increased to about 137,000,000 pounds in 1926. The value increased to about \$10,070,000.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$5,077,228. Their per capita rate was \$7.96, as against \$7.82 in 1924 and \$8.46 in 1917. The total included \$818,215 for education, apportioned among the minor State divisions. Expenses totaling \$469,181 for interest on debt and \$2,008,803 for permanent improvements, added to payments for maintenance and operation of State departments, made the total of State payments \$7,555,212. For highways was expended the sum of \$1,478,868, of which \$140,155 was for maintenance and \$1,338,713 for construction.

Revenue receipts of the State were \$7,366,633, or \$11.55 per capita. They exceeded by \$1,820,224 the total payments except those for permanent improvements, and were \$188,579 less than the total with these included. Property and special taxes formed 33.7 per cent of the revenue in 1925, as against 34.8 per cent in 1924 and 23.1 per cent in 1917. Their per capita rate was \$3.90 in 1925, \$3.77 in 1924 and \$2.92 in 1917. Earnings of the general departments and compensation for officials' services furnished 8.4 per cent of the 1925 revenue; business and non-business licenses, 16.4 per cent. State license receipts were derived chiefly from taxes on corporations and on gasoline sales. Revenue from licensing motor vehicles was credited to the counties.

The net indebtedness of the State on June 30, 1925, was \$4,318,844, or \$6.77 per capita, as against \$7 per capita in 1924 and \$1.91 per capita in 1917. The assessed valuation of property subject to State tax was \$441,274,763. The State tax levy was \$1,995,164, or \$3.13 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 5037. There were constructed in 1926, of new first track, 29 miles. The Great Northern abandoned 5 miles of line between Windham and Leigh.

**EDUCATION.** A referendum measure submitted to popular vote in the November election received what the correspondent of the *Journal of the National Education Association* characterized as much more favorable consideration than had been expected. This measure, which did not pass, sought to provide for the equalization of educational opportunities for pupils in the different subdivisions of the State. A site was selected for a new normal school to be built in eastern Montana. Minimum standards were adopted for determining the education requirement for high school graduation and the professional qualifications for certification of teachers.

For the school year 1925-1926, the school population according to the data of the State Department of Public Instruction was 156,651 persons of from six to 21 years. Total enrollment in the schools was 116,990 of which 96,049 was common school enrollment and the remainder in high schools. Expenditures for education attained the total of \$12,425,496. The average salary of teachers was \$1110.

**CHARITIES AND CORRECTIONS.** Chief among the charitable and correctional institutions of the State are the following: State Soldiers' Home; State School for the Deaf and Blind; State Prison; State Hospital for the Insane; State Tuberculosis Sanatorium, State Industrial School for Boys; State Vocational School for Girls; State Orphans' Home.

**POLITICAL AND OTHER EVENTS.** A vote taken on November 2, on a referendum proposal for the repeal of the State laws for the enforcement of alcoholic prohibition gave a majority in favor of repeal. The two U. S. Representatives from Montana in the 69th Congress, one Democrat and one Republican, were reelected. Lee Dennis was elected Railroad and Public Service Commissioner at the November election.

The semicentennial of the battle of the Little Big Horn, in which General George A. Custer lost his life and a force of U. S. troops was wiped out by Indians, was commemorated by ceremonies on June 24 at the Crow agency, attended by Indian and white surviving combatants of the Indian wars. Hardships encountered by some of the State's dry land farmers in 1926 or in preceding years led to the formation of an understanding between the State attorney-general and the tax commission for the remission of penalties and interest in cases of tax delinquency. Penalties of 5 per cent and interest at the rate of 1 per cent a month were to be remitted from tax bills. All State statutes for the enforcement of prohibition were automatically removed from the body of State law when Governor J. E. Erickson signed, November 20, a proclamation stating the result of the popular referendum vote of November 2, for the repeal of these laws. Attorney-General L. A. Foot in December advocated passage by the Legislature of a measure empowering the State's authorities to receive revenue from its oil lands in oil, to be refined into gasoline, so as to reduce the price to consumers in the State.

**OFFICERS.** Governor, J. E. Erickson; Lieutenant-Governor, W. S. McCormack; Secretary



of State, C. T. Stewart; Treasurer, W. E. Harmon; Auditor, George P. Porter; Attorney-General, L. A. Foot; Superintendent of Public Instruction, May Trumper.

**JUDICIARY.** Supreme Court: Chief Justice, Lew L. Callaway; Associate Justices: John A. Mathews, Albert J. Galen, Albert P. Stark and Henry L. Myers.

**MONTANA, STATE UNIVERSITY OF.** A co-educational State institution of higher education at Missoula, Mont.; founded in 1895. The enrollment for the autumn of 1926 was 1404, 773 men and 631 women, distributed among the various schools as follows: arts and sciences, 945; business administration, 54; forestry, 102; journalism, 124; law, 46; music, 30; pharmacy, 58; music specials, 30; unclassified, 15. In the summer session 429 students were registered, of whom 144 were men and 285 were women. The faculty had 93 members. The productive funds and income for the year amounted to \$457,207.43. There were about 100,000 volumes in the library, including government documents. President, Charles H. Clapp. Ph.D.

**MONTENEGRO,** mōn'tā-nā'grō. An integral part of the state of Jugo-Slavia (q.v.). Before the war it was a Balkan kingdom, bounded by Serbia on the east, Albania on the south, Dalmatia on the west, and Herzegovina on the west and north, with an area of 5603 square miles and a population of 436,789 on Jan. 1, 1917. After Dec. 1, 1918, its status was indeterminate until 1921 when it became an integral part of Jugo-Slavia. The area in 1921 was placed at only 3733 square miles, and the population, according to the census of that year, 199,857. Capital, Cetinje, with a population of 5500.

**MONTSERRAT,** mōnt'sē-rāt'. One of the presidencies of the Leeward Islands (q.v.).

**MOONEY, CHARLES PATRICK JOSEPH.** American editor, died at Memphis, Tenn., on November 22. He was born in Bullitt Co., Ky., on Sept. 15, 1865, and at the age of 13 he began work as a telegraph operator. Later he went to St. Mary's College, where he received the degree of A.B. in 1886. For the next two years he was a teacher of the classics and mathematics in the high school at Uptons, Hardin County. He began also to read law, but he soon became connected with a newspaper where he worked as a reporter, editorial writer, and an advertisement clerk. In June, 1890, he went to Memphis as a reporter on the *Avalanche*. Almost as soon as he made this connection the paper was amalgamated with the *Appeal*, and Mooney went to the *Scimitar*, of which paper he soon became city editor. In 1896 he became managing editor of the *Commercial Appeal* of Memphis, from which he resigned in 1902 to go to New York in the same capacity for Munsey's *Daily News*. He did not stay long in this place, but joined the Hearst forces and in 1905 he took charge of the *Chicago Examiner*. He relinquished this post in 1908 and went back to the *Commercial Appeal*. Mr. Mooney served as second vice president of the Associated Press in 1924 and 1925.

**MOORE, FORBES JEWETT.** American chemist and educator, died at Boston, Mass., on November 20. He was born at Pittsfield, Mass., on June 9, 1867, and graduated at Amherst in 1899, where in the following year he was made an assistant in the chemistry department. He continued his studies in Germany, receiving the degree of Ph.D. from Heidelberg in 1893 and in

1894 he was appointed an instructor at Cornell University. After a year in this post he was called to the Massachusetts Institute of Technology where he held various posts until appointed Professor of Organic Chemistry in 1910, a position he occupied at the time of his death. He was a member of many learned societies and the author of papers in the publications of these institutions, as well as *Outlines of Organic Chemistry* (1910); *Experiments in Organic Chemistry* (1911); *A History of Chemistry* (1918).

**MOORE, HARRY HUMPHREY.** An American painter, died on January 2. He was born in 1844 in New York, N. Y., and studied there and at San Francisco. In 1865 he went to Munich, and later studied at l'Ecole des Beaux Arts in Paris. Here he met Fortuny and they went to Madrid and Moore studied the methods of Fortuny, devoting two years to the study of Moorish life. Between 1873 and 1875 Moore worked on his "Almeh" with Fortuny in Rome. In 1875 he returned to the United States, where his studies of Moorish life immediately attracted attention for their color and line. He also painted in Japan where his studies were considered bright and delicate. His best known pictures are "Almeh," which won a medal at the Philadelphia Centennial Exhibition in 1876, "Blind Guitar Player," "A Moorish Bazaar," "A Bulgarian," and "A Moorish Merchant."

**MOORE, WALTER WILLIAM.** American clergyman, died on June 14. He was born at Charlotte, N. C., on June 14, 1857, and took his A.B. degree at Davidson College in North Carolina in 1878. From 1878 to 1881 he studied at the Union Theological Seminary, and in the latter year he was ordained to the Presbyterian ministry. He first was an evangelist in Western North Carolina, and then was pastor at Millersburg, Ky., in 1882-83. He then went to the Union Theological Seminary as Professor of Hebrew language and literature, holding this chair until 1912. In 1904 he was made President of the Virginia Theological Seminary. In 1908 he was Moderator of the Presbyterian General Assembly, and for some time he was a trustee of Hampden-Sidney College. He received the degree of D.D. from Central University in 1885. Dr. Moore's published works include *A Year in Europe* (1904); *The Indispensable Book* (1910); *Appreciations and Historical Addresses* (1914); *The Value of the Church* (1918), etc.

**MORAN, THOMAS.** American painter, died on August 26, at Santa Barbara, Cal. He was born at Bolton, England, on Jan. 12, 1837, and began his career as a weaver's apprentice. He followed his brother Edward to the United States, where after failing to support himself in various capacities, including that of house painter, he had to turn to repairing looms. A chance meeting with James Hamilton gave him his first start, and he soon succeeded with his etchings, paintings and magazine illustrations, studying in Paris and in Italy. A plate of his exhibited in London was singled out by John Ruskin as the finest produced in America. In 1871 Mr. Moran visited the Yellowstone country, and after a similar trip with Major J. W. Powell in 1873, he produced two pictures which were purchased by Congress. These are "The Grand Canyon of the Yellowstone" and "Chasm of the Colorado," and they now hang in the Capitol in Washington. He painted extensively



and his works are found in the leading American collections. His "The First Ship," "Ruins in the Nile" and others are in the Wiltstach Collection in Philadelphia and "Bringing Home the Cattle" in the Buffalo Museum. Mr. Moran became a member of the National Academy in 1884 and was also a member of the American Water Color Society and of the Pennsylvania Academy of Fine Arts.

**MORAVIANS.** A religious denomination comprising, in the United States, three branches: The Moravian Church (Unitas Fratrum); the Evangelical Union of Bohemian and Moravian Brethren in North America; and the Independent Bohemian and Moravian Brethren Churches. It was formed in Bohemia in 1457, under the leadership of John Huss and Jerome of Prague, and opposed the efforts of Austria and the Roman Catholic authorities to suppress it. At the beginning of the Reformation it had more than 400 churches. In 1741 Moravians settling at Bethlehem, Pennsylvania, founded the first Moravian church in the United States. The doctrine is evangelical, without doctrine peculiar to itself, and in its polity follows a modification of the episcopacy, having a ministry of three orders, bishops, presbyters, and deacons.

The Unitas Fratrum, the largest branch, is organized in two coordinate provinces: the Northern, with a provincial synod meeting every fifth year; and the Southern, of which the provincial synod meets every third year. The church maintains the following five educational institutions: Linden Hall, Lititz, Pa.; Moravian College and Theological Seminary and Moravian Seminary and College for Women, Bethlehem, Pa.; Nazareth Hall, Nazareth, Pa.; and Salem Academy and College for Women, Winston-Salem, N. C. Missionary workers are maintained in southern California and Alaska, and abroad, in Nicaragua, the West Indies, Jamaica, Labrador, Surinam, South Africa, the Himalayas, and Unywanesi. The official periodical, *The Moravian*, is published weekly at Bethlehem, Pa. In 1926 it had 125 churches, 153 ministers, 25,170 communicant members, although the actual membership was estimated at 35,264, and 119 Sunday schools with 21,534 scholars.

The Evangelical Union of Bohemian and Moravian Brethren in North America, of which the first congregation was organized in 1864, at Wesley, Tex., is under the direction of a synod which meets each year on July 6, the day of the death of John Huss. The Independent Bohemian and Moravian Brethren Churches were founded in 1858 in College Township, Iowa. In 1926 there were 3 churches with one minister and 356 members. Three Sunday schools had 381 scholars.

**MORMONS.** See LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF.

**MOROCCO.** The largest of the Barbary states, occupying the northwestern corner of the continent of Africa; bounded on the west by the Atlantic Ocean, on the north by the Mediterranean Sea, on the east by Algeria, and on the south by the Sahara Desert and the Spanish colony of Rio de Oro. From an administrative and political point of view, Morocco is divided into three zones: First, and most important, the French protectorate, including approximately 85 per cent of both area and population, with Fez as the political capital and Casablanca as the leading port and commercial centre; second, the

Spanish protectorate, a narrow strip of land extending for about 300 miles from the Atlantic Ocean along the Mediterranean with Ceuta, Melilla, and Tetuan as the principal localities; and third, the international Tangier zone, ruled in accordance with the terms of the Paris convention of Dec. 18, 1923, between France, Great Britain, and Spain. The latest estimate of the total area places it at 231,500 square miles, of which the area claimed by Spain for her zone in the north was 8280 square miles; for her southern zone, 9500 square miles; and for Ifni on the west coast, 580 square miles. In 1921, the area effectively held by the French was estimated at 92,664 square miles.

Estimates of the population vary widely, although in 1926 an authoritative estimate placed it in the neighborhood of 6,000,000. According to this same source the French Protectorate had a population of 4,411,000, of which 95,000 were Europeans, including 60,000 of French nationality. About 800,000 natives have not yet been brought under French rule. Exclusive of this latter element, there were 611,000 persons living in cities and 3,000,000 in tribal communities. The population of the Spanish zone has been placed at 600,000. The largest towns in the French zone with their estimated populations in 1924 are: Marrakesh, 145,000; Fez, 124,500; and Casablanca, 110,934. In the Spanish zone the largest town is Tetuan, with a population of about 30,000. The population of Tangier has been variously estimated at 50,000 to 80,000, including about 12,000 Europeans. The chief languages are French, Spanish, Arabic, and Berber dialects. In 1924 the number of schools in the French zone was 199; in the secondary schools there were 188 teachers and 2822 pupils; in the high schools, 26 teachers and 417 pupils; in the primary schools, 645 teachers and 23,327 pupils; in the professional schools, 79 teachers and 1029 pupils. There are Moslem schools at Rabat and Fez, and a research institute for the study of Arabic and Berber languages at Rabat.

**PRODUCTION.** Although Morocco is essentially an agricultural country, it must depend upon timely rainfalls to reap the full benefit of the soil's possibilities. The proper exploitation of the natural agricultural resources is prevented by a practically total lack of irrigation and the crude implements and methods of farming. In 1924 the yield of the chief crops in metric quintals was as follows: Barley, 11,626,750; wheat, 7,824,700; beans, 369,250; oats, 158,150; maize, 998,000; sorghum, 235,350; chickpeas, 154,700; and linseed, 133,350. In the same year the number of livestock in the French zone was: sheep, 8,214,000; goats, 2,646,000; cattle, 1,840,000; pigs, 55,000; asses, 536,000; horses, 174,000; mules, 66,000; and camels, 114,000. Over 3,000,000 acres of the total area is covered by forests, but only one-sixth can be exploited at present, owing to the lack of irrigation, poor transportation facilities, or constantly unsettled conditions in certain parts. Cork and gum are the main products from this source. The development of the rich mineral resources of Morocco is also retarded by the adverse conditions which prevent the exploitation of the forests. No coal is to be found, but the phosphate mines in the vicinity of Casablanca are steadily increasing their output, which was estimated at 700,000 tons in 1925 as compared with 400,000 in 1924.

These mines are exploited by the government and under its monopoly. Iron mines in the Spanish zone are also being exploited.

**COMMERCE.** French Moroccan imports from all countries in 1925 were valued at \$55,626,000, as compared with \$52,748,000 in 1924. As in the past France and Algeria together ranked first in the import trade supplying 61.88 per cent. England ranked second and was followed by the United States and Italy. The exports were valued at \$26,392,000 as compared with \$33,109,000 in 1924. Of the 1925 exports France and Algeria took 38.52 per cent, Spain, 31.54 per cent, and Great Britain, 9.81 per cent. The United States took 1.48 per cent. A large part of the Moroccan goods exported to France is reshipped to other countries. In 1922 the imports of the Spanish zone amounted to 128,604,382 francs and the exports to 14,387,590 francs. The imports at Tangier in 1924 amounted to 77,885,831 francs and the exports to 11,569,827 francs.

**FINANCE.** The estimated revenue in French Morocco for 1925 was 342,184,960 francs and the estimated expenditure, 342,099,086 francs. In Spanish Morocco the expenditure in 1923 was 311,044,372 pesetas and in 1924 433,277,668 pesetas.

**COMMUNICATIONS.** In 1924, 1498 vessels of 1,607,458 tons entered the ports of French Morocco and 1502 vessels of 1,014,018 tons entered the port of Tangier. There are about 730 miles of narrow gauge railways in the French zone, 308 miles in the Spanish zone, and none at all in the Tangier zone.

**GOVERNMENT.** As noted above the Tangier district is governed by an international commission. The French zone constitutes a protectorate, under a French and native administration. Its status was defined in the treaty of Mar. 30, 1912. The highest local authority is the French Resident General. The office of Sultan continues but the Sultan is obliged to follow the advice of the French Resident in all matters. The native Shereefian administration comprises a Grand Vizier and the Viziers of Justice, Crownlands, Pious Foundations, and Instruction, and the Resident of the Native High Court. The position of War Minister is held by the officer commanding the French troops in Morocco. Sultan Mulai Yusef (proclaimed Aug. 18, 1912). French Resident General, Theodore Steeg, appointed Oct. 11, 1925. Abd-el-Krim, the Rifian leader responsible to a large degree for the successful resistance against the Spanish troops since 1921 as well as for the formation of the dictatorship in Spain, was finally compelled to surrender on May 26, in the face of overwhelming French and Spanish forces. After considering ways and means of dealing with him he was finally exiled to the island of Réunion in the Indian Ocean. This method was not particularly pleasing to the Spanish who were desirous of trying him for abuses committed on Spanish war prisoners.

**MOSAIC DISEASES.** See BOTANY under PLANT DISEASES.

**MOSES, REVEREND DR. ISAAC S.** Rabbi and Biblical scholar, died at New York, N. Y., on December 3. He was born on Dec. 8, 1847, at Santomischel, Posen, Germany, and went to the United States in 1871. Soon after his arrival he became rabbi of a small congregation at Quincy, Ill., leaving in 1879 to go to Milwaukee and in 1888 to Chicago. In this city he founded

the People's Synagogue, one of the first free synagogues in the United States. In 1901 he was called to New York as Rabbi of the Congregation Ahawath Chesed, later known as the Central Synagogue, and afterward merged with the Free Synagogue. In 1917 he retired and was made rabbi emeritus. He was one of the pioneers in reformed Judaism, working with Isaac M. Wise, Kaufman Kohler and others. His first book was *The Pentateuch*, published in 1881, and he followed this with *The Historical Books of the Bible*, and *The Ethics of Hebrew Scripture*. In 1894 and in 1904, he published a Sabbath School Hymnal, but his greatest work was *The Union Prayer Book*, first issued in 1892. Dr. Moses' published sermons include *Man and Humanity* (1886); *The Message of the Age* (1890); and *On the Heights* (1892). He was, at Milwaukee, editor with his brother of *Der Zeitgeist*, a German-Jewish periodical.

**MOSES SOHN, REVEREND DR. NEHEMIAH.** Jewish scholar and founder of the *Jewish Tribune*, died in New York, N. Y., on December 10. He was born in the Crimea, Russia, in 1853, his father being chief rabbi of Odessa. He studied at the universities of Odessa and St. Petersburg, receiving from the latter his directorate in Semitic languages. In 1887 he left for the United States and served until 1902 as rabbi of orthodox congregations in Philadelphia, Pa., Dallas, Tex., and Portland, Ore. In 1902 Dr. Mosessohn received the LL.D. degree from the University of Oregon, and in the same year he became editor of the *Jewish Tribune*. This journal he published in Oregon until 1918, and afterward he continued its publication in New York. Dr. Mosessohn retained active editorship until 1923 when he was elected founder-editor. He was an associate editor of the *Hebrew Encyclopædia* and author of *Almah Again*. He was National Director of the Jewish Consumptive Relief Society, as well as Past President of Bnai Brith.

**MOTHS.** See ENTOMOLOGY, ECONOMIC.

**MOTION PICTURES.** See MOVING PICTURES.

**MOTOR BOATING.** See YACHTING.

**MOTOR CARS.** See AUTOMOBILES.

**MOTOR FUEL.** See CHEMISTRY, INDUSTRIAL.

**MOTOR TRUCKS.** See AUTOMOBILES; ROADS AND PAVEMENTS.

**MOTOR VEHICLE TAX.** See ROADS AND PAVEMENTS.

**MOTT, SIR FREDERICK WALKER.** British neurologist, died on June 8. He was born at Brighton, England, Oct. 23, 1853, and was educated at University College and Hospital, London, where he became University scholar and gold medallist. He was for some time lecturer on morbid psychology in the University of Birmingham, England, and in 1900 he was appointed Croonian Lecturer to the Royal College of Physicians. He was also Fullerton Professor of Physiology at the Royal Institute. In 1910 he was the Fothergill Gold Medallist and Prizeman, and in 1918 he was the Moxon Gold Medallist. In 1916 he was appointed Lettson Lecturer to the Medical Society, and on this occasion he presented his famous dissertation, *The Effects of High Explosives upon the Central Nervous System*. To gain the material for this thesis he had undertaken military service in the World War and served in the Royal Army Medical Corps. In 1919 he was created a Knight of the British Empire, and among his many duties were Consulting Physician to the Charing Cross Hospital,

London, pathologist to London County Asylums, and his academic posts. He was a Fellow of the Royal Society, of the Royal College of Physicians, and of University College, London. His works include *War Neuroses and Shell-shock*, and *Brain and the Voice*.

**MOUNT HOLYOKE COLLEGE.** An institution for the higher education of women at South Hadley, Mass.; founded in 1837. The registration for the fall session of 1926 was 1032, divided as follows: seniors, 253; juniors, 251; sophomores, 208; freshmen, 222; specials, 10; graduate students, 28. The number of members on the faculty, including professors, associate professors, assistant professors, instructors, and chief administrative officers, was 120, and in addition there were 41 assistants, readers, graduate teaching fellows, curators, and secretaries. During the year 17 additions were made to the faculty, including Cornelia C. Coulter, Ph.D., professor of Latin; Kathleen M. Lunch, Ph.D., assistant professor of English Literature; James Muilenberg, Ph.D., assistant professor of Biblical history and literature; Clara B. Tillinghast, A.B., assistant professor of music. The productive funds of the College amounted to \$3,677,647.65, and the income for the year to \$158,811.99. There were 95,354 volumes in the library. President, Mary Emma Woolley, A.M., Litt.D., L.H.D., LL.D.

**MOVING PICTURES.** According to data collected at the biennial census taken in 1926 by the United States Department of Commerce, the organizations engaged primarily in the production of motion-picture films reported, for 1925, a total production cost amounting to \$93,636,348, of which sum \$71,488,457 represented studio work, and \$22,147,891, laboratory work. The total represents an increase of 8.4 per cent over \$86,418,170 for 1923. The census industry classification "Motion pictures" embraced all processes and activities connected with the production of motion-picture films, such as construction of scenery, stage settings, and properties; employment of managers, photographers, actors, and all other persons engaged in connection with the "shooting" of scenes; laboratory work necessary in the developing of exposed films and the printing of projection films; and other work in connection with the preparation of the projection films for use. It did not, however, include distribution and projection in theatres. Of the 132 organizations reporting for 1925, 72 were operated in California, 18 in New York, eight in Illinois, eight in New Jersey, four in Ohio, three in Michigan, three in Pennsylvania, three in Washington, and 13 in eight other States.

The year 1926 was more notable for technical advance and improved photographic effects in the new pictures than for dramatic progress. Photoplays, from the dramatic viewpoint, showed no improvement. The output from the studios was very large; but the quality of the presentations, the dramatic value, was not higher than in former years. Moving pictures in natural colors were made with fairly satisfactory results, but did not seem to arouse more than a passing interest in the minds of the public. Talking moving pictures, also were practically within reach of the public. The synchronization of action and voice was accomplished by means of apparatus that recorded the speaker's voice on the film on which the action was simultaneously

photographed; and its projection on a screen became a problem of a somewhat similar nature to that involved in radio transmission. These devices, such as the vitaphone, the photophone and the pallophotophone were exhibited in many motion picture theatres toward the close of the year and the manufacturers of machines equipped especially to project such pictures were anticipating a heavy future demand. (See *MOVING PICTURES*, in *YEAR BOOK* for 1925.) Censorship remained practically unchanged. In only seven states were there laws providing for ownership; and in no state had any such law been enacted since 1921. The Motion Picture Producers and Distributors of America, Inc., composed of about 85 per cent of the producers in the United States cooperated with the National Board of Review of Motion Pictures in the matter of censoring new productions before their release for showing on the screen.

**MOZAMBIQUE.** See **PORTUGUESE EAST AFRICA.**

**MUDD, SEELEY WINTERSMITH.** American mining engineer, died on May 24. He was born at Kirkwood, Mo., on Aug. 16, 1861, and became assayer and superintendent of the copper department of the St. Louis Smelting and Refining Company in 1883-85. In 1885 he went to Leadville, Colorado, and became interested in many mining companies and enterprises. He was commissioned major of engineers O.R.C. in 1917, being on active duty in 1918, and serving as assistant director United States explosives plants, Washington. He was promoted to be Colonel, U. S. A. in May 1918, and was honorably discharged in 1919. He was a trustee of Pomona College and the Southwest Museum.

**MUNICIPAL GOVERNMENT.** Unlike in the immediately preceding years, no large city of the United States adopted the commission-manager form of government in 1926. The plan was defeated in two cities of considerable size—*Minneapolis* and *Seattle*—but the proposed new charters in those cities did not run true to the general commission-manager plan. A modified council-manager plan was adopted by the voters of *Newport, R. I.*, on November 2 by a vote of 5020 to 1865. This plan does not go into effect until Jan. 1, 1928. There was to be a manager at Newport with much the usual run of powers and duties except as regards the police. The council will have five members. There will be a city planning board of eight members: The manager, the directors of law and of works, and five qualified electors appointed by the manager. The mayor under the new charter will head the Police Department and make all police appointments. Newport for some years had been governed by a representative council of 195 members and a board of aldermen. Effective Jan. 1, 1927, the number of representative councilmen was to be reduced to 25. A notable feature of the new charter for Newport is that in framing the budget the manager would, among other things, recommend "a long-time programme of proposed activities, developments and improvements listed in order of relative importance," at the same time "specifying whether the work is to be done by bond issue or by taxation." The budget framed by the city manager would be subject to approval by the city council with power to reduce or eliminate items, but not to cut out essential items. Civil service provisions will result in a personnel board composed of the city

manager, a member chosen by the city council, and a member elected by ballot by the officers and employees of the city.

Another city that adopted the council-manager plan on November 2 was *Oklahoma City*. The new charter provides for a council of eight members and a mayor to serve as the ninth member and to be designated the chief executive officer of the city. The city manager is to be called the chief administrative officer and would prepare the budget. The council-manager charter previously adopted went into effect at *Kansas City, Mo.*, on April 10. The manager appointed by the city council was chosen in advance by old-time party caucus methods from the party which won the majority of seats in the new council. *Minneapolis* voted on a proposed council-manager charter on June 21, with about 55,000 votes against 26,000 for the charter. A 60 per cent majority was required for adoption. A proportional representation provision was said to have caused many votes against the charter. Another feature of the charter which may have lost a considerable number of votes was the provision for a board of financial review, which on petition of only 100 taxpayers, could nullify any appropriations or bond issues proposed by the council. Altogether, *Minneapolis* voters have defeated a half dozen proposed charter changes in the past 18 years, the only change adopted being one providing for the city larger measure of home rule.

Early in the year *Seattle* defeated a charter amendment providing merely for a city manager, the same election declaring by a good majority for a charter revision commission and electing as mayor Mrs. Bertha K. Landis. Mrs. Landis favored the manager amendment, although if it had been adopted she would not have become mayor. This was the second defeat for establishing the manager plan at *Seattle* by charter amendment. As a result of the provision for a charter revision commission, there was submitted to the voters on November 2, a draft for a complete charter. This also went down to defeat, the vote being only some 20,000 for to 31,000 against adoption. The total vote was only some 43 per cent of the registration and was much under that for United States Senator. The charter defeated November 2, provided for a short ballot, a weak mayor, a strong council, a "city business manager" in control of engineering, public works and utilities, and fire protection, a single health commissioner, and a half dozen commissions of several members including one commission in charge of the Police Department. The draft provided for 14 councilmen, all elected at large but chosen to represent seven districts. All the department heads and commissions would have been appointed by the city council instead of following the common practice of having the appointments made by the city manager.

*Santa Barbara, Cal.*, on November 16, by a 5 to 3 vote, adopted a new city charter which substitutes for the manager form of government a mayor and ward councilmen. Two weeks earlier *Pasadena, Cal.*, rejected a proposal to abandon the manager plan, although voting for the election of "city directors" (councilmen) to represent seven districts of the city on the election-at-large plan. Early in the year *Waco, Texas*, voted against changing from the council-manager to the aldermanic type of government

and on November 2, *Ashtabula, Ohio*, cast a considerable majority of votes against abandoning the proportional representation plan of election and against having the city manager elected by popular vote instead of being appointed by the city council. Another attack on the city manager plan that failed was at *Stockton, Cal.*, where, on October 12, there was defeated an initiative measure designed to reduce the salary of the city manager from \$20,000 to \$10,000 a year.

**COUNTY CONSOLIDATION.** The proposed consolidation of the city and county of *St. Louis, Mo.*, was defeated by votes outside the city limits on October 26, but the vote within the city was heavily in favor of the consolidation. A favorable vote would have created a municipality with an area of almost 550 sq. mi., of which 55 per cent is classed as farmland, although there are cities in the county besides *St. Louis*.

**GERMANY.** An interesting pamphlet of a dozen pages, entitled "German Cities Since the Revolution of 1918," was issued as a supplement to the *National Municipal Review* (New York City) for November, 1926. The original paper was prepared by Dr. Mitzlass, formerly chief burgomaster of Berlin, and had been translated into English. From a summary prefixed to the article it appears that "The traditional home-rule powers of German cities were little affected by the revolution, but that proportional representation and universal suffrage have been introduced since 1918" to the destruction of the old three-class system of voting. There is now a "drift towards the single-chamber council and away from the magistrate as an executive board enjoying the prerogative of a second chamber." Budget systems have been restored; "wartime socialism has virtually disappeared"; and to-day "German municipal administration is more conscious than ever of its place in the life of the nation and is facing the future with courage."

**ITALY.** According to an Associated Press dispatch of August 30, "the election of municipal officers by popular suffrage, allowed since the Kingdom of Italy was founded in 1870, was abolished to-day by the Fascist Government." In its place the Podesta system "was made applicable" to every city, town and village in Italy, Rome and Naples alone being excepted, the former continuing under a governor and Naples under a high commissioner, but neither of these cities having any elected officials. Before the decree of August 30 was issued, the Podesta system prevailed in 1341 towns of less than 5000 population and also in towns considered as health resorts or located in the earthquake zone. About 1700 places were affected by the new decree, bringing the total Podesta towns and cities up to over 3000. The first Podesta decree became effective Feb. 1, 1926. The governor or Podesta is appointed by the central government. In places of more than 20,000 population, he is aided by one or two vice-governors and by a consulta or council graded in size according to the importance of the city, the members of the council being appointed either by the prefect of the commune or by the minister of the interior from a list suggested by the recognized syndical organizations. These syndical organizations embrace various professions and trades "which alone," the dis-

patch states, "will have representation in legislative bodies."

During the year there appeared a rewritten and enlarged edition of Munro's *The Government of American Cities* (New York), and a new book, by Anderson, *American City Government* (New York).

See also CITY PLANNING, GARBAGE, ROADS AND PAVEMENTS, SEWERAGE, WATER-WORKS.

**MUNICIPAL HOME RULE.** See MUNICIPAL GOVERNMENT.

**MUNICIPAL LEAGUE, NATIONAL.** An organization to promote efficient and democratic government in city, county, state, and nation; founded in 1894, and incorporated in 1923. It has committees of experts at work studying, from practices in different parts of the country, sound principles of government methods and government administration. These committees submit reports which are approved by the League and distributed where they will have most effect. The active committees in 1926 were as follows: Committee on Government for Regional Areas; Committee on Municipal Indebtedness; Committee on Revising Model City Charter; Committee on Election Administration. Recent publications included a model municipal bond law; a model system of election registration; and two monographs, one on municipal budgets and one on depreciation in public utilities.

The thirty-second annual meeting of the League was held in St. Louis, Nov. 9 and 10, 1926. Joint sessions held with the National Association of Civic Secretaries and the Illinois Home Rule Conference, were unusually well attended. The *National Municipal Review* (monthly) is the official organ of the League and records the latest developments and most interesting experiments and theories in government, in addition to the record of the yearly meeting. The number of members of the League in 1926 was 2500. Its officers were: Frank L. Polk, president; Carl H. Pforzheimer, treasurer; Clinton Rogers Woodruff, honorary secretary; and H. W. Dodds, secretary. Headquarters are at 261 Broadway, New York City.

**MUNICIPAL RESEARCH.** See MUNICIPAL GOVERNMENT.

**MURKLAND, CHARLES SUMNER.** American agriculturalist, and educator, died at Waltham, Mass., on November 11. He was born on May 20, 1856, at Lowell, Mass., and graduating from Middlebury College, in 1881, then studied for the ministry at Yale Divinity School. He graduated from the Harvard Theological School in 1884, and served as pastor of Congregational parishes in Chicopee, Mass., and Manchester, N. H., until he became President of New Hampshire College of Agriculture and Mechanic Arts in 1893. This position he relinquished in 1903 to become Principal of Brewster Free Academy at Wolfboro, N. H. In 1910 he retired but resumed his educational work with the Young Men's Christian Association in France, during the War. In 1893 Dr. Murkland was granted a Doctor of Philosophy degree by Dartmouth College.

**MUSCLE SHOALS.** During the year no definite decision had been reached as to the utilization of the power plant and resources at Muscle Shoals. The United States Treasury Department analyzed, during the year, the bids submitted by the Air Nitrates Corporation and by the Associated Power Companies for the use of Dam Number 2, Dam Number 3, and the

steam plant, all fully equipped, and compared these bids with one previously submitted by Henry Ford. The Treasury Department analysis showed that the Air Nitrates Corporation bid would give to the Government 2.828 per cent interest on the investment and that no money would be available to repay any of the principal. The Ford offer, on a 50-year basis, would return 2.798 per cent, while the Associated Power Companies' offer would return 3.252 per cent interest on the total investment if no headwater storage was constructed and 4.32 per cent interest if headwater storage were constructed in ten years. This offer, if headwater storage were constructed in ten years, it was stated, would return 4 per cent interest to the United States on the early balances of the total investment, and in addition repay to the United States \$66,015,000, or 81.7 per cent of the total investment.

The Secretary of War, for the fifth consecutive time, leased the Government 60,000 kw. steam plant at Muscle Shoals to the Alabama Power Company until Nov. 17, 1927, at a rental of \$1,250,000. The output of this plant was fed into the Southern superpower system. At the end of the year various plans for utilizing the Muscle Shoals power were being put forward and it was anticipated that the contest would continue between the advocates of the various measures. One of the bills put forward at the end of the year provided for the incorporation of the Farmers Federated Fertilizer Corporation under a Federal Charter to lease the power facilities for the manufacture of fertilizer and the disposal of the surplus power.

Power from Wilson Dam, called into use Sept. 12, 1925, for the first time, amounted up to Dec. 31, 1926, to 477,058,000 kw. hrs., the revenue to the Government being \$946,070.84. See FERTILIZERS.

**MUSEUMS, ART.** See ART MUSEUMS.

**MUSIC. GENERAL NEWS.** Owing to extensive alterations begun immediately after the close of the 1925 festival, the Festspielhaus at Bayreuth remained closed during 1926, and thus it came to pass that the 50th anniversary of the establishment of the Bayreuth Festival passed unobserved in the very theatre, the opening of which, in 1876, marked the definite triumph of the supreme art of Richard Wagner. At the time that announcement was made of the temporary suspension of the festival performances the management already was planning their resumption, in 1927, on a scale of unprecedented magnificence, in a practically new theatre. However, the disappointed devotees of Bayreuth found compensation in the superb performances of the annual Wagner-Mozart Festival at Munich (August 1-September 5) which consisted of Wagner's *Tristan und Isolde*, *Die Meistersinger*, *Parsifal* and the complete *Ring des Nibelungen* and Mozart's *Die Entführung aus dem Serail*, *Figaros Hochzeit*, *Die Zauberflöte*, *Don Giovanni* and *Così fan tutte*.

In Germany the centenary of Weber's death (June 5) was observed in every theatre. Gotha produced a new version of *Der Freischütz* by Robert Hernried, who had set to music all the original spoken dialogue, employing Weber's own motives. The Deutsche Akademie in Munich began the publication of the master's complete works, in 24 volumes.

Nothing affords more striking proof of the

vitality of Beethoven's music than the somewhat premature celebration of the centenary of the great master's death. Instead of waiting till the actual date (Mar. 26, 1927), all the musical organizations throughout the civilized world, as if by preconcerted agreement, began their series of Beethoven programmes with the opening of the concert season in the fall. Thus the orchestras played all the symphonies on a schedule to end the series with a performance of the *Ninth* near the real date, and a similar method was followed by the chamber-music organizations.

In the archives of the Benedictine Abbey in Lembach Prof. Wilhelm Fischer, of Vienna, discovered the manuscript score of a Symphony in G by Mozart, dated 1769. Although listed in Köchel's catalogue, the work was supposed to have been lost. Upon the death of its owner the house in which Mozart completed his *Don Giovanni* passed into the possession of the Mozarteum in Salzburg. The Mozart Society of Prague will renovate the house and open it as a Mozart Museum.

At a distinguished social gathering in Berlin (November 1) a clever work of Richard Strauss, written as far back as 1918, had its first semi-public performance by Frl. Johannsen of the Staatsoper. In a series of poems, under the collective title *Der Krämerspiegel*, Alfred Kerr satirizes the various publishers of Strauss's works. The composer employs themes from his own earlier works in such a way, that for every stanza satirizing a particular publisher the themes are drawn from the scores issued by that firm.

On April 25, Puccini's posthumous opera *Turandot* had its première at La Scala, in Milan, under Toscanini, with Raisa (Turandot) and Fleta (Calaf). Clever advertising had excited public curiosity to the highest pitch, and lavish staging and superb execution on the part of conductor and singers resulted in a tremendous outward success. (For critical comment see the section *Opera*.) At its first performance at the National Slovak Theatre in Pressburg (in May) Leoslav Bella's *Wieland der Schmid*, on Wagner's text, was hailed as the first thoroughly national opera of Slovakia.

The general level of the works submitted to the Carnegie Trust, in London, was so low that out of 50 scores only two were recommended for publication: Harry Farjeon's *Phantasy Concerto* for piano and chamber orchestra and Alec Rowley's *The Princess Who Lost a Tune*, a mime play without words.

A committee headed by N. Penrose Hallowell secured one of the most valuable collections of ancient musical instruments of the 17th and 18th centuries, brought together by Henri Casadesus, and presented it to the Boston Symphony Orchestra, on October 23. It was installed in Symphony Hall as a memorial to the late Col. H. L. Higginson, the founder of the orchestra.

After his quarrel and resignation as director of the Staatsoper in Vienna, two years ago, Richard Strauss has made his peace with the new management, agreeing to appear every year as guest-conductor for 20 performances. On his reappearance in his own opera *Elektra* (December 7) he was greeted with tumultuous applause.

During the celebration of Civic Week the great organ of Liverpool Cathedral was formal-

ly dedicated (October 16). The instrument has 10,690 speaking pipes controlled by 168 stops, and is second only to the famous organ at St. Michael's in Hamburg, which has 12,174 pipes.

After considering various plans for the establishment of a fully equipped Conservatory, the trustees of the Juilliard Foundation (see YEAR BOOK, 1919) came to an agreement with the trustees of the Institute of Musical Art, in New York, by which the latter was incorporated with the Foundation. Dr. Frank Damrosch was to continue as artistic director. The original endowment fund of the Institute of \$5,000,000, given by James Loeb, was to be known as the Betty Loeb Fund and be administered by a special board of directors. The income henceforth was to be devoted to providing pensions and scholarships.

Now that New York has had three different societies devoted exclusively to the production of futuristic works, Philadelphia followed suit by organizing the Society for Contemporary Music (in November). Alexander Smallens is chairman of the music committee, and three concerts are to be given annually. The Horatio Parker Memorial Fellowship of the American Academy at Rome was awarded to Robert L. Sanders, of Chicago, a graduate of the Bush Conservatory.

ARTISTS. Three new pianists, recognized in Europe as of the first rank, made their American début, and won unstinted praise. Of these the German Walter Gieseking (New York, January 10) proved himself a universalist, equally at home in all styles of music from Bach to Debussy. Mieczysław Horszowski, a Pole (New York, February 24), who 20 years ago attracted attention as a youthful prodigy, returned a consummate master. The Frenchman Paul Doguerneau (New York, November 4), although only 18 years of age, already measures up to the full height of the greatest interpreters. The English pianist Irene Scharrer, introducing herself in Beethoven's G major concerto, with the New York Symphony Society, under Otto Klemperer (February 28) also made a very favorable impression. Ethel Newcomb, an American pianist, was heard again with pleasure after an absence of 10 years (January 19). Worthy of record are three concerts given by Ernest Schelling, with the assistance of the Philharmonic Orchestra, under Mengelberg (New York, November 8, December 4 and 13), when he played concertos of Mozart, Beethoven, Chopin, Schumann, Liszt, Paderewski and himself. The list of great pianists whose art is too well known to call for detailed comment includes the familiar names of Bachaus, Bauer, Brachocki, Brailowsky, Buhlig, Casella, Cherkassy, Deering, Dohnányi, Friedmann, Gabrilovitch, Gebhardt, Hess, Hilsberg, Hofmann, Hughes, Leginska, Levitzky, Levy, Lhevinne, Maier, Merù, Moiseiwitch, Münz, Murdoch, Ney, Novas, Niregyhazy, Paderewski, Pattison, Pettis, Puishnov, Reisenberg, Rosenthal, Sampaix, Samuel, Schmitz, Schnitzer, Wittgenstein.

Among the large number of débutants the following made more than a passing impression (all débuts at New York, except where specially noted): Dorsey Whittington (February 9), Solito de Solis (February 20), Helen Mennig (February 24), Bruce Simonds (February 27), Paul de Marky (March 11), Leo Podolsky (Chicago,

October 10), Beatrice Pinkham (October 22), George Mulfinger (October 26), Signe Johanson (October 27), Nikolai Orlov (October 28), Charles Naegele (November 11), Samuel Reichmann (December 6), Felian Garzia (December 12).

Although the year brought forth no new violinist of the first magnitude, the performances of the débutants showed a high level of accomplishment. Worthy of mention are: Mischa Weishord (February 23), Gisella Neu (March 7), Jacob Zayde (March 26), Vladimir Resnikov (November 4), Sigmund Feuermann (November 7), Frances Berkova (November 24), Josef Gingold (December 10). The list of established favorites includes the names of Birkenholz, Dushkin, Elman, Hansen, Kochanski, Kortschak, Kreisler, Luboshutz, Mischakov, Niernack, Ocko, Polah, Rabinov, Reuter, Seidel, Spalding, Stern, Szigeti, Teschner-Tas, Thibaud, Wadler, Zimbalist.

Three new cellists made their first bow to American audiences and won immediate recognition. Mila Wellerson (January 28) and Gdal Salesky (December 1) were first heard in recital, while Maurice Maréchal appeared as soloist with the Philadelphia Symphony Orchestra (New York, November 2). With the mention of the names of Belusov, Bilstin, Casals, Durieux, Kindler, Salmond, Schroeder, Van Vliet, Varady and Willeke the list of the great cellists heard during the year is practically exhausted.

To mention merely by name all the vocalists who contributed to the year's musical offerings would be a task not unlike the preparation of a practically complete directory of the concert singers of the United States. To these would have to be added the large number of foreign visiting singers and all the operatic artists of the Metropolitan and Chicago companies, for of late years a fixed tradition seems to have sprung up, that success on the operatic stage carries with it the obligation of a certain number of appearances on the concert platform. What has been said in former years regarding the mixed character of the programme, the preponderance of operatic excerpts and the almost complete neglect of the highest form of vocal expression, the Lied, still holds true in general of the performances of the past year. However, a slight increase in the number of Lied recitals can be recorded. While only one great singer well known to American audiences, Elena Gerhardt, was heard in this form of art, three newcomers, all of established European reputation, received a hearty welcome on the occasion of their American début. These were a German baritone, Eduard Erhard (March 1), a German contralto, Lulu Mysz-Gmeiner (March 8) and a Danish tenor, Lauritz Melchior (March 30). A very unusual and interesting recital was that of the Australian soprano, Irma Carson, who made her début (March 21) in a programme, with explanatory comments, of Malay and Maori songs.

**CHAMBER MUSIC.** The second Washington Festival (Coolidge Chamber-music Festival), a continuation of the former Berkshire Festival (see *YEAR BOOK*, 1925), was held at Washington, D. C., from October 7-10. From among 108 manuscripts submitted, the judges, Olga Samarov, Albert Spalding, Frank Bridge, Howard Hanson and Carl Engel, awarded the Elizabeth Coolidge prize of \$1000 to a violin-sonata by Albert Huy-

brechts of Brussels. The work was performed by A. Onnou and R. Schmitz on Oct. 8. Of more importance was the American début of the famous Pro Arte String Quartet of Brussels (October 8), whose initial number was also a novelty, J. Jongen's *String-quartet*, op. 67, a work of considerable merit. But the rare perfection of this fine ensemble was not fully disclosed until the great *Quartet* of César Franck afforded them an opportunity. The other novelties were N. Berezovsky's *Theme and Fantastic Variations* (October 8), Luc Balmer's *Third String Quartet* (October 9) and A. Huybrechts' *Poème* and F. Malipiero's *Ricercari* for chamber orchestra (October 10). All these works were typically futuristic and ugly. The high lights of the festival were the superb performances of masterpieces by Bach, Haydn, Mozart, Beethoven, Schumann, and Fauré. Besides the Pro Arte String Quartet (A. Onnou, L. Halleux, G. Prevost, R. Maas), two other famous chamber-music organizations participated in the masterly renditions of the programmes, the Flonzaley Quartet (A. Betti, A. Pochon, N. Moldavan, I. d'Archambeau) and The Stringwood Ensemble (Stopak, Kuskina, Cores, Borodkin, Bellison, Loesser).

A new organization of the very first rank, the Curtis Quartet of Philadelphia (Carl Flesch, Emanuel Zetlin, Louis Bailly, Felix Salmond), gave their first concert in Washington (February 4) and scored an overwhelming success, which caused no surprise in view of the fact that every member is not only a soloist of international reputation, but has also had wide experience as an ensemble player in various distinguished quartets.

Of the numerous novelties by American and foreign composers produced by various organizations throughout the country it can safely be predicted that the vast majority will never secure a second hearing, and that none will ever find a place in the standard repertory of chamber-music. As in former years, the latest productions of the extreme futurists were brought out by their special organizations. The International Composers' Guild, The League of Composers and the Pro Musica Society, the latter being none other than the former Franco-American Music Society under a new name.

A recital given by Evsei Belusov and Wanda Landowska (New York, January 27), consisting entirely of works of Bach for cello and harpsichord, emphasized once more the utter futility of any attempt to revive interest in older keyboard instruments. All the compositions for these instruments gain immeasurably when performed on the modern piano.

For the first time Chicago had the opportunity of hearing all Beethoven's string-quartets in chronological order. The cycle, begun in October, was the contribution to the Beethoven centennial by the Gordon String Quartet (J. Gordon, J. Weicher, C. Evans, R. Wagner).

A concert of most extraordinary interest, one that attracted visitors even from distant cities, was given in the auditorium of Wanamaker's, in Philadelphia (December 29). Thaddeus Rich, who in May resigned as concertmaster of the Philadelphia Symphony Orchestra to become curator of the Rodney Wanamaker collection of old string instruments, gave practical demonstration how these valuable instruments could still serve the artistic purpose for which they



had originally been constructed. He engaged the entire personnel of five of the most famous string quartets, the Flonzaley, Pro Arte, New York, Lenox and Vertchamp, and to these he added four double-bass players from the Philadelphia Orchestra, constituting a full string orchestra of 24 eminent artists. But each performer, instead of playing on his own instrument, was provided with the corresponding one from the Wanamaker collection. Under the direction of Mr. Rich this unusual ensemble performed a *Suite* in C by Purcell, the *Prelude to Le Déluge* by Saint-Saëns and a *Concerto Grosso* by Veracini, the last two with the assistance of the organ, played by C. M. Courboin. Between these numbers each organization, as a separate unit, executed a string-quartet of its own choice. According to the unanimous testimony of witnesses the tonal effect was of indescribable beauty.

**FESTIVALS.** The 20th annual Bach Festival took place at Bethlehem, Pa., (May 14, 1915), under the direction of Dr. F. J. Wollé. The programme of the first day contained seven cantatas, while the second day, as customary, was devoted to the great *Mass* in B minor. The second annual Westchester County Festival was given at the Kensico Dam, White Plains (May 20-24), under M. G. Williams. A special feature was the concert of the second day, when the programme was rendered by a chorus of 2500 school children and an orchestra of 150 recruited from several high schools. As the directors had received numerous complaints regarding the disturbance caused by passing trains, it was decided to begin immediately the erection of a suitable auditorium, and to postpone the next festival until the completion of the hall in 1928.

The 18th annual North Shore Music Festival was held at Evanston, Ill., (May 24-29), under the direction of Frederick Stock. The \$1000 prize, for which 80 scores had been submitted, was awarded by the judges, Henry Hadley, Howard Brockway and Adolf Weidig, to a *Tragic Overture* by Edward Collins. Its performance revived the comments by musicians made the preceding year in regard to the very poor quality of the works submitted. The board of directors evidently heeded these indications of discontent, and withdrew the prize for the coming year, and offered, instead, a prize of \$500 for a children's cantata with orchestra. After the festival was over, it became known that the *Tragic Overture* under other titles, had been sent before for two competitions of previous years. The 67th annual Worcester Festival (October 6-9), under Albert Stoessel, brought two novelties—Whithorne's *Saturday's Child*, revised as a symphonic poem, and Mussorgsky's original version of the Coronation scene from *Boris Godunov*. The principal work of the festival was Verdi's *Requiem*.

**ORCHESTRAS.** From January 14 to February 7, the concerts of the New York Philharmonic Society were conducted by Arturo Toscanini as guest, whose every appearance aroused unbounded enthusiasm. That among the world's greatest conductors he is unsurpassed needed no further demonstration at this late day. But certain it is, that, at least in New York, he never had at his disposal such a perfect body of instrumentalists capable and ready to convey his intentions. Without detracting from the superlative merits of Toscanini, it seems but fair to

remind the thoughtless that this wonderful orchestra is the result of the incessant rehearsals of the regular conductors, Mengelberg and Furtwängler, the latter conducting the regular concerts of the spring season, the former those of the fall season until the end of the year. The directors decided to add to the regular concerts of the year two special concerts, the proceeds of which were hereafter to be turned over to the Pension Fund, the performers and conductors giving their services gratis for this purpose. The Fund was established by two special productions of Beethoven's *Ninth Symphony* in April, 1922 but since then the question has received no further attention. The first of these Pension Fund concerts took place on December 21, under the direction of Mengelberg and a guest-conductor, George Georgesco, conductor of the Rumanian Opera at Bucharest, who on this occasion made his American début with pronounced success. Another guest-conductor, who also made a favorable impression at his début, was George Zaslavsky (April 12).

The New York Symphony Orchestra on one occasion was directed by the English conductor Eugene Goossens (January 7), while the prolonged engagement of Otto Klemperer (January 24 to March 28), general music director at Wiesbaden, gave him the position as regular alternate with Mr. Damrosch. Before the end of the season Mr. Klemperer had succeeded in establishing himself as a prime favorite with his audiences.

The Boston Symphony Orchestra also was heard under two guest-conductors, Michael Press (January 14, 15, 16) and Eugene Goossens (January 22, 23), while the concerts led by the regular conductor, Sergei Kussevitzy, offered a profusion of modernistic compositions, often very extreme, which the audience received invariably with respectful applause.

Of the Philadelphia Symphony Orchestra several experiments have to be recorded which, unfortunately, verge upon the sensational. The first of these was the daring innovation of performing Rimsky-Korsakov's *Scheherazade* with the addition of the Clavilux (color-keyboard) in Philadelphia (January 2) and New York (January 5). The orchestra was completely hidden behind a screen, upon which the colors were projected. The consensus of critical opinion was that the effort of trying to establish a relation between color and sound distracted from the enjoyment of the score, which needed no additional effects beyond the purely musical ones provided by the composer. After unsuccessful experiments with darkened halls and strange lighting effects Mr. Stokowski was obliged to yield to the wishes of his audience regarding normal conditions, when the music can be heard and the conductor and orchestra can also be seen. The idea of devoting an entire concert to works by Respighi (January 15), and, in addition introducing the composer in the further rôles as conductor and pianist, met with very adverse criticism. For the summer months the entire orchestra was engaged at the Exposition. After 20 years of distinguished service as concertmaster Thaddeus Rich resigned and was succeeded by Michael Gusikov. Dr. Artur Rodzinski, formerly conductor of the Warsaw Philharmonic Society, was appointed assistant-conductor. Owing to Mr. Stokowski's indisposition toward the end of the year Dr. Rodzinski had



ample opportunity of demonstrating his excellent qualities both in Philadelphia and New York.

That the keen rivalry among the great orchestras of this country has been productive of excellent results was proved by the concerts given in New York by the Cincinnati Symphony Orchestra, under Fritz Reiner (January 6), and the Cleveland Symphony Orchestra, under Nikolai Sokolov (January 19). Both organizations have developed into virtuoso orchestras of the first rank.

The opening of the fall season saw several changes in the position of concert-master. The St. Louis Symphony Orchestra had secured Sylvain Noack, the Los Angeles Philharmonic Orchestra Alfred Megerlin, while in Minneapolis J. E. Shadwick succeeded Pierre Henrotte, who returned to his former post as concert-master at the Metropolitan Opera House.

Owing to lack of support the State Symphony Orchestra of New York was disbanded in January. After complete reorganization on a permanent basis the Seattle Symphony Orchestra began its fall season under a new conductor, Karl Krueger (November 8).

Lively interest was shown in the performances of the official orchestra of the Republic of Mexico, the Tipica Orchestra, conducted by José Briseno, which made a coast to coast tour of the United States from June to December. Dressed in their picturesque national costume, they offered typical Mexican and Spanish music, interspersed with selections from the standard classical and modern repertory.

The fifth season of summer symphony concerts at the Hollywood Bowl, Los Angeles (July 6 to August 28), was given in the new permanent auditorium seating 20,000 persons. The conductors were Sir Henry Wood, Eugene Goossens, Emil Oberhoffer, Willem Van Hoogstraten and Alfred Hertz. The total attendance exceeded that of the preceding summer by 75,000. Mrs. J. J. Carter, the founder of these concerts, resigned as president of the board of directors and was succeeded by Allen C. Balch.

The ninth summer season of the Philharmonic Orchestra at the Stadium of the College of the City of New York (July 7 to August 31) also broke all records for attendance, and this in spite of unfavorable weather. Besides the now customary performances of Beethoven's *Ninth Symphony* and Verdi's *Requiem*, a special Wagner Night (August 19) enlisted the services of soloists and full chorus in excerpts from the master's music-dramas. The winners of the Stadium Audition contest, Enrique Ros (pianist), Giuseppe Martino-Rossi (baritone) and Alice Godillot (soprano), made their debut in the concert of August 6. The principal conductor was Willem Van Hoogstraten, while Henry Hadley, Nikolai Sokolov and Frederick Stock appeared as guest-conductors.

The new orchestras that began their career during the year were the Glendale (Cal.) Symphony Orchestra, under J. Arthur Myers (January 25), the Washington Symphony Orchestra, under Kurt Hetzel (April 20), the Boston Philharmonic Orchestra, under Ethel Leginska (October 24) and the Dallas Symphony Orchestra, under Paul Van Katwijk (November 21).

**NOVELTIES.** The following list includes the more important—not necessarily valuable—new works introduced during the year: New York

Philharmonic Society (under Toscanini): O. Respighi, *Pini di Roma*, symphonic poem (January 14); V. de Sabata, *Gethsemane*, symphonic poem (January 21); under Furtwängler: R. Strauss, *Interlude* and *Waltz* from the opera *Intermezzo* (March 4); under Mengelberg: T. Strong, *An Artist's Life*, violin-concerto (played by Szigeti, October 28); H. Hanson, *Pan and the Priest*, symphonic poem (Boston, October 21; New York, October 31); A. Honegger, *Prelude to The Tempest* and A. Casella, *Suite* from the ballet *La Giara* (November 4); H. Pfitzner, 3 *Preludes* to the opera *Palestrina* (November 11); J. Wagenaar, *Overture to The Taming of the Shrew* (November 21). New York Symphony Orchestra, under Goossens: A. Bax, *Tintagel*, symphonic poem (January 15); under Klemperer: O. Respighi, *Overture to Belfagor* (March 7); under Damrosch: D. Milhaud, *Ballad* for piano and orchestra (composer as soloist; December 5); J. Sibelius, *Tapiola*, symphonic poem (December 26).

Boston Symphony Orchestra, under Kussevitzky: H. Gilbert, *Symphonic Piece*, on American Folk-themes (February 26); T. Spelman, *Assisi*, part IV of a suite *Saints' Days* (March 28); M. Delmas, *Penthésilée*, overture to Mortier's tragedy (March 26); S. Prokofiev, *Seven, They are Seven*, Akkadian incantation for orchestra and chorus (April 23); A. Steinert, *Southern Nights*, tone-poem (October 15); J. Ibert, four movements from a ballet, *Les Rencontres* (October 22); A. von Webern, *Five Pieces* for orchestra, J. Walton, *Portsmouth Point*, overture, and H. Krasa, *Pastorale* (November 19).

Philadelphia Symphony Orchestra, under Stokowski: N. Miaskovsky, *Symphony No. 5*, in D (January 2); O. Respighi, *Old Dances and Airs* and *Concerto in Miwo-Lyidian Mode* for piano and orchestra (composer as soloist; January 15); J. Sibelius, *Symphony No. 7*, in A (April 3); J. Sibelius, *Symphony No. 6*, in D minor (April 23); E. Hutcheson, *Fantasy Concerto* for two pianos and orchestra (composer and G. Maier as soloists; May 2); A. Pingaud, *Le Prophète* (October 22); A. Caplet, *Epiphanie*, fresco for cello and orchestra (M. Marechal, soloist; November 2); N. Miaskovsky, *Symphony No. 6*, in Eb (November 26); K. Szymanowski, *Symphony No. 3, Chant de la Nuit* (November 19); H. Kaminsky, *Concerto Grosso* (December 10).

Chicago Symphony Orchestra, under Stocks: J. Ibert, *Concerto* for cello and orchestra (A. Wallenstein, soloist; November 12). Minneapolis Symphony Orchestra, under Verbrugghen; J. Beach, *The Asolani*, suite for orchestra (November 12). Rochester Philharmonic Orchestra, under Goossens: L. Weiner, *Concertino* for piano and orchestra (S. Vas, soloist; December 2). Syracuse Symphony Orchestra, under Shavitch: C. Erlanger, *Sursum Corda*, symphonic poem (February 18).

**OPERA.** At the Metropolitan Opera House in New York 205 performances were given from a repertory of 50 operas by 29 composers. According to nationality these were divided as follows: Italian, 23 works by 13 composers totaled 107 performances; German, 12 works by 4 composers totaled 42 performances; French, 9 works by 7 composers totaled 29 performances; Russian, 3 works (including 1 ballet) by 2 composers totaled 13 performances; Bohemian, 1 work had 4 performances; Spanish, 1 work had 4 performances; American, 1 work had 6 per-

formances. Wagner, represented by 9 works, stood first with 32 performances. Next came Verdi, represented by 5 works and 28 performances. Third stood Puccini, represented by 5 works and 25 performances. The opera that achieved the greatest number of representations was Verdi's *Rigoletto* (8), while no less than 9 operas were given only once, among these *Das Rheingold* and *Parsifal*.

The first novelty was Giordano's *La Cena delle Beffe* (January 2), under Serafin, with Alda, Gigli and Ruffo as principals. The superficial success was due entirely to Benelli's excellent libretto. The music itself never rises above the commonplace. Even more insignificant was the next novelty, Carpenter's ballet *Sky-scraper* (February 19), conducted by Hasselmans. Two one-act operas, De Falla's *La Vida Breve* and Stravinsky's *Le Rossignol* were brought out in a double bill (March 6). Both were conducted by Serafin, while the principal rôles in the former were sung by Bori, Howard and Tokatyan, and in the latter by Talley, Bourskaya, Errolle and Didur. *La Vida* suffers from a very conventional and utterly undramatic plot, from which the composer evidently could draw no inspiration. Then followed Massenet's *Don Quichotte* (April 3), under Hasselmans, with Easton, De Luca and Chaliapin as principals. Were it not for the fact that the title-rôle of this opera was especially written for Chaliapin, it would be impossible to discover any reason for producing this work.

Unquestionably the event of the year was the production of Puccini's posthumous *Turandot* (November 16), under Serafin, with Jeritz, Altglass, Ludikar and Lauri-Volpi as principals. It scored a brilliant outward success, due primarily to the gorgeous stage-pictures, although singers, chorus and orchestra gave their very best. The libretto, by G. Adami and R. Simoni, offers little opportunity for character development, but all the more for effective staging. The score gives evidence of careful and skilled workmanship, yet the music lacks spontaneity and real inspiration. In fact, the music appears as little more than an accessory element in a sumptuous spectacle making its principal appeal to the eye. Even now there can be no doubt that the success of *Turandot* will be as ephemeral as was that which greeted the same composer's *Panciulla del West*, *La Rondine* and the *Triptych*. As far as the standard repertory is concerned, Puccini has made only three contributions: *La Bohème* (1896), *Tosca* (1900) and *Madama Butterfly* (1904). As a matter of record it should be stated that the finale of *Turandot* was written by Franco Alfano after sketches left by the composer.

An unusually large number of artists new to the Metropolitan audiences appeared during the year. Mary Lewis (as Mimi in *Bohème*, January 28), Lauritz Melchior (in the title-rôle of *Tannhäuser*, February 18), Marion Talley (as Gilda in *Rigoletto*, February 18), Dorothea Flexer (as Old Woman in *Andrea Chénier*, March 5), Nanette Guilford (as Ginevra in *La Cena delle Beffe*, March 20), Ezio Pinza (as Pontifex Maximus in *La Vestale*, November 1), Edith Fleischer (as First Lady in *Die Zauberflöte*, November 6), George Cehanorsky (as Kothner in *Die Meistersinger*, November 13), Martha Attwood (as Liu in *Turandot*, November 16), Pavel Ludikar (as Timur in *Turandot*,

November 16), Elda Vettori (as Santuzza in *Cavalleria Rusticana*, November 20), Joseph Macpherson (as Il Re in *Aida*, December 30). A new conductor, Vincenzo Bellezza, made his début with Wolf-Ferrari's *Jewels of the Madonna* (November 4) and made an excellent impression.

A very important event in the history of the Metropolitan Opera House was the acquisition by the Metropolitan Realty Company of a large plot of land on 57th Street and Eighth Avenue for the erection of a new opera house.

The Chicago Civic Opera Company gave 82 performances of 36 operas by 25 composers. According to nationality these were distributed as follows: Italian, 20 works by 11 composers totaled 52 performances; French, 8 works by 8 composers totaled 16 performances; German, 6 works by 5 composers totaled 12 performances; American, one work was performed twice. The opera produced most frequently was Alfano's *Risurrezione* (7 times), one of the novelties of the preceding year, while not less than 12 operas had only one hearing. The only novelty produced was Cadman's *The Witch of Salem* (December 8), under H. G. Weber, with Norena and Hackett as principals. Its performances meant only the addition of one more to the already considerable number of operas on American subjects by American composers, without furnishing a solution of the vexing problem of American Opera. Of greater interest was the revival, after several years, of Wagner's *Tristan und Isolde* (November 12), in which Elsa Alsen made her début. Her almost sensational success was a foregone conclusion after her previous appearances in Chicago and New York with the Wagnerian Opera Company (1923). Other artists new to the company were Aroldo Lindi (as Rhadames in *Aida*, November 8), Kaja Norena (as Gilda in *Rigoletto*, November 13) and Louise Loring (as Leonora in *Il Trovatore*, November 13). Antonio Sabino, who made his début with *Aida* (December 5), proved an inspiring conductor.

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**BIOGRAPHY:** H. Collet, *Albeniz et Granados* (Paris), full biographical sketches and sane critical estimate of works. D. C. Parker, *Bizet* (London), sympathetic and critical. J. Pulver, *Brahms* (London), a very uncritical and childish attempt to establish the master's superiority over Bach, Beethoven and Wagner. H. Bidon, *Chopin* (Paris), very appreciative. R. De Koven (Mrs.), *A Musician and his Wife* (New York), reminiscences of the musical and social life at the end of the last century. H. Curzon, *Leo Delibes* (Paris), an excellent estimate of the man's work. C. Gray and Ph. Heseltine, *Carlo Gesualdo, Prince of Venosa: Musician and Mur-*

derer (London), in spite of sensational title a valuable critical estimate of the musician. W. Kienzl, *Meine Lebenswanderung: Erlebtes und Ersehntes* (Stuttgart), not only interesting, but reliable as to facts and dates. A. Sandberger, *Orlando Lasso und die geistigen Strömungen seiner Zeit* (Munich), critical and very scholarly. R. Maud (Mrs.), *Jenny Lind* (London), a remarkable objective and impartial account by the singer's daughter. J. G. Prod'homme, W. A. Mozart: *Sa vie et ses Œuvres* (Paris), rather an adaptation than a faithful translation of the second edition of Schurig's authoritative work. O. von Riesemann, *Modest Petrovitch Mussorgsky* (Munich) lacking in systematic arrangement, but valuable as the first extensive biography written in another language than Russian. C. L. Graves, *Hubert Parry: His Life and Works* (2 vols., New York), authoritative, because based on the composer's diary, but far too many unimportant details included. E. Flade, *Der Orgelbauer Gottfried Silbermann* (Leipzig), an excellent survey of the art of organ-building at the time. J. Kapp and H. Jachmann, *R. Wagner und seine erste Elisabeth, Johanna Jachmann-Wagner* (Berlin), throws new light on Wagner's relations toward his niece and her father, his brother Albert, and contains some hitherto unpublished letters of the master. A. Seidl, *Neuzeitliche Tondichter und zeitgenössische Tonkünstler* (2 vols., Ratisbon), contains critical estimates and biographical data about contemporary composers and executants.

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the 25th anniversary of the founding of the "Universal Edition," contains valuable information about the younger contemporary composers with complete statistics of opera premières in Germany for the preceding quarter of a century.

ÆSTHETICS, CRITICISM: H. Chorley, *Thirty Years' Musical Recollections* (New York), a new edition, with introduction by E. Newman, of a work originally published in 1862, makes little appeal to the reader of to-day. J. Jeannin, *Étude sur le rythme grégorien* (Lyons), rather a polemic against the theories of Riemann and Mocquereau than an objective study. J. Jeannin, *Sur l'importance de la Tierce dans l'accompagnement grégorien* (Paris), advances some new and debatable ideas. E. Paccagnella, *L'elaborazione tematica nelle opere di J. S. Bach* (Monza), an attempt to establish a fancied relationship between the theme of each Prelude and its corresponding Fugue in the Well Tempered Clavichord. K. E. Schomann, *Akustik* (Breslau), concise and practical, valuable for a very extensive bibliography. F. Stege, *Das Okkulte in der Musik* (Münster), a disguised attack on futuristic music.

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CORRESPONDENCE: A. Orel, *Wiener Musikerbriefe aus zwei Jahrhunderten* (Vienna), letters of eminent Viennese musicians, from Haydn to Mahler, selected for the special purpose of showing the importance of Vienna as a centre of musical activity. A. Pescarzoli, *R. Wagner e Matilde Wesendonk: Diario e Lettere* (Milan), the first Italian translation.

MUSSOLINI, BENITO. See ITALY, History.

MUTATION. See ZOOLOGY.

MUTTON. See LIVESTOCK.

NAPOLEON, PRINCE VICTOR JEROME FREDERICK. French pretender as head of the Bonaparte family, died May 3. He was born at the Palais Royal, Paris, on the 18th July, 1862, and was the eldest son of Prince Napoleon and Princess Marie Clothilde de Savoie. In 1886 he was expelled from France, and in 1910 he married H. R. H. Princess Clementine of Bel-

gium and thereafter made his home in that country.

**NATAL**, ná-tál'. An original province of the Union of South Africa. See SOUTH AFRICA, UNION OF.

**NATIONAL ACADEMY OF DESIGN.** See ART EXHIBITIONS.

**NATIONAL ACADEMY OF SCIENCES.** A body of American scientists incorporated by Act of Congress approved by President Lincoln in 1863, for the purpose of investigating, examining, experimenting, and reporting upon any subject of science or art, when called upon by any department of the Government, the actual expense of such investigations, examinations, experiments, and reports, to be paid from appropriations made for the purpose without compensation for any services to the Government. The membership is limited to 250 active members and 50 foreign associates. New members are elected by the Academy on nominations from its ten sections: mathematics, astronomy, physics, engineering, chemistry, geology and palaeontology, botany, zoology and animal morphology, physiology and pathology, anthropology and psychology. No new members but four foreign associates were elected in 1926, the latter as follows: Sir Frank Watson Dyson, Jacques Hadamard, Max Planck, Richard Willstätter. The Academy holds two meetings each year: the annual meeting, held in Washington beginning the fourth Monday in April; and the autumn meeting, held at a place and on dates decided upon by the Council of the Academy. The autumn 1926 meeting was held in November at Philadelphia, Pa.

The Academy has trust funds which grant money for the furtherance of research investigations and other trust funds which provide for gold medals in recognition of outstanding scientific work. Two medals were presented at the annual meeting in April 1926: the Henry Draper Medal was awarded to Harlow Shapley, a member of the Academy, in recognition of his contributions to astronomical science; the Alexander Agassiz Medal was awarded to Vilhelm Bjerknes of Bergen, Norway, in recognition of his outstanding contributions to dynamic oceanography. The *Memoirs* consist of monographs by Academicians and others, and reports of investigations conducted by the Academy for the Government. The Academy also publishes *Biographical Memoirs* of the deceased members. The *Proceedings*, issued monthly, is devoted to condensed reports on the most recent scientific discoveries. The officers in 1926 were: A. A. Michelson, president; John C. Merriam, vice-president; R. A. Millikan, foreign secretary; David White, home secretary; George K. Burgess, treasurer. The headquarters are at B and 21st Streets, Washington, D. C.

**NATIONAL BANKS.** The Comptroller of the Currency, in his annual report, issued on December 10, 1926, as usual called attention to a number of most important features connected with the organization and operation of national banks in the United States. From Oct. 17, 1925, to Oct. 1, 1926, 87 national banks, with aggregate resources of about \$560,000,000 went into the State systems, while during the same period 29 State banks, with aggregate resources of about \$235,000,000, were nationalized. The national banks in 1926 continued to decline, so that at that time they were

holding only about 46 per cent of the total commercial banking resources of the United States, although there had been an actual increase in their aggregate resources, the figure in 1926 standing at around \$25,000,000,000. The reason for this condition obviously was that State laws were operating more favorably to modern banking than the National Banking Act.

In the year ended Oct. 31, 1926, 91 national banks, with aggregate capital of \$5,412,500, were placed in charge of receivers, and on this date there were 378 national banks still in charge of receivers, 31 receiverships having been terminated during the year. The Comptroller of the Currency stated, however, that during the fiscal year ended June 30, 1926, there were 496 failures of state and private banks, with total liabilities aggregating \$147,823,000, which was an increase of 56 failures over the previous year and was an increase of \$29,095,000 in liabilities. On Oct. 31, 1926, there were in existence 8008 national banks, with a capital of approximately \$1,422,132,000, and in the year under consideration 156 applications to organize national banks or to convert state banks into national bank associations were approved, 122 were rejected, and 43 abandoned. Sixty national banking associations were consolidated into 30, with, in some cases, a reduction in capital, and in others an increase.

On June 30, 1926, the total resources of 7978 reporting national banks in the continental United States, Alaska, and Hawaii aggregated \$25,315,624,000, as compared with resources of 8072 national banks amounting to \$24,350,863,000 on June 30, 1925. The 1926 resources were distributed as follows: loans and discounts, \$13,417,674,000; overdrafts, \$9,719,000; investments, \$5,842,253,000; cash, \$359,951,000, and other items as indicated in the table on page 200, which accompanies the article FINANCIAL REVIEW. The liabilities, on the other hand, consisted of: capital stock paid in amounting to \$1,412,872,000; surplus, \$1,198,899,000; deposits, \$20,642,164,000, as indicated in the table mentioned.

The loans and discounts of the national banks on June 30, 1926, \$13,417,674,000, were in excess of \$743,607,000 over the previous year. The total investments of the national banks in United States Government and other miscellaneous bonds and securities amounted to \$5,842,253,000, an increase of \$111,809,000 in the year.

During the year ended June 30, 1926, the gross earnings of the national banks reporting were \$1,192,218,000, as compared with \$1,124,097,000 shown by 8070 banks during the previous fiscal year. The amount of net earnings after the payment of expenses, with the addition of \$44,005,000 recovered from charged-off assets, was \$394,557,000, an increase in the year of \$29,488,000. Losses charged against net earnings aggregated \$145,390,000 and were \$4,256,000 more than in the previous year. The net addition to profits after the losses were charged off totaled \$249,167,000, or an increase of \$25,232,000 during the year, while dividends to the amount of \$173,753,000 were declared and exceeded by \$8,720,000 the total dividends of the previous year. On Dec. 31, 1925, of the 8054 reporting national banks, 2425 were capitalized at less than \$50,000, while 4257 had a capital of between \$50,000 and \$200,000, 890 had a capital of \$200,000 but less than \$500,000, 249 had

\$500,000 but less than \$1,000,000, and 205 had a capital of \$1,000,000 but less than \$5,000,000, and 28 banks had a capital of \$5,000,000 or more, these two last-named classes having resources of \$6,050,716,000 and \$7,425,555,000 respectively. See FINANCIAL REVIEW; STATE BANKS, SAVINGS BANKS, etc.

**NATIONAL BUREAU OF INFORMATION AND EDUCATION.** The Educational Department of the Committee of Forty-eight. See FORTY-EIGHT, COMMITTEE OF.

**NATIONAL CIVIC FEDERATION.** An educational movement, organized in 1900, for the purpose of seeking the solution of some of the great problems related to social and industrial progress, providing especially for the discussion of questions of national import, aiding in the crystallization of the most enlightened public opinion, and promoting legislation when desirable. The Federation is directed by an executive committee composed of representatives of the public, of employers, and of wage earners. Its activities are conducted through specialized departments and committees. It is essentially a patriotic institution, advocating proper and adequate military defense and opposing super-pacifist efforts against "all war," including defense of our country against invasion.

The Department of Political Education completed, on Nov. 1, 1926, the initial drive in a two-year educational campaign to arouse the qualified voters of the nation to the fulfillment of their civic obligations with respect to registering, enrolling, voting in primaries and elections, and participating in other party activities. In making this drive, the Americanism Commission of the American Legion, acting for the Department, called more than 1500 meetings throughout the country between September 20 and October 15. At the end of the year there was being organized in each community a permanent Joint Committee made up of representatives of the participating local bodies, to co-operate with the Department. The Industrial Relations Department, organized for the purpose of seeking a method of reducing to a minimum friction and misunderstanding between the two great industrial groups, employers and wage-earners, seeks to bring these two great forces together for discussion, at the Industrial Round Tables, of questions responsible for bitterness, and advocates trade agreements in organized industries. In 1926 these Round Tables discussed "Problems of the United States Coal Industries"; and "Is Compulsory Arbitration Practicable?" The Subversive Movements Department has for its object the counteraction of foreign propaganda, especially that of the Russian Soviet, intended to undermine the government, by informing citizens about such propaganda.

The officers of the Federation for 1926 were: Elihu Root, honorary president; Matthew Woll, acting president; Samuel McRoberts, treasurer, D. L. Cease, secretary; Ralph M. Easley, chairman of the executive council; Miss Maude Wetmore, chairman of the Woman's Department; Charles L. Edgar, chairman, Industrial Welfare Department; Condé B. Pallen, chairman, Department on Subversive Movements; Archibald E. Stevenson, chairman, Committee on Free Speech; John Hays Hammond, chairman, Department of Political Education; V. Everit Macy, chairman, Department on Industrial Re-

lations; Marcus M. Marks, chairman, Industrial Round Table; Jeremiah W. Jenks, chairman, Department on Current Economics; Gertrude Beeks Easley, secretary, executive council; Mrs. Coffin van Rensselaer, executive secretary, Woman's Department; Peter J. Brady, secretary, Department on Political Education. The headquarters are in the Metropolitan Tower, East 23d Street, New York City.

**NATIONAL CRIME COMMISSION.** See CRIME.

**NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES.** An organization of persons actively engaged in educational work and others interested in education, organized in Philadelphia, Aug. 26, 1857, under the name of the National Teachers' Association, and on June 30, 1907, incorporated by Congress under its present name. In July, 1920, at the annual meeting, the Association was reorganized and provision made for a Representative Assembly composed of delegates from State and local education associations. The other governing bodies are a board of directors, an executive committee of five, a board of trustees, departmental organizations, standing and special committees, and a staff at headquarters which is held responsible for carrying out the decisions of the governing bodies. There are 17 departments, each having its own officers, and in 1926 there were more than 20 committees actively at work on professional problems. Two conventions are held yearly. The summer meeting serves as a clearing-house for educational ideas and reviews the progress of the year in education. At this time, in addition to the general sessions, meetings of the Representative Assembly, the departments of the Association, and a number of allied organizations are held. In 1926 this meeting was held at Philadelphia, Pa., June 27 to July 2, 1926, the attendance being 15,000. The 1927 convention was to be held at Seattle, Wash., July 3 to 8. The Department of Superintendence holds a winter convention the last week in February, that of 1927 to be at Dallas, Texas.

The chief objective of the Association is to secure from the American public a broader recognition of education and, through a legislative programme, to provide for increased educational opportunities for American children. It advocates a Department of Education with a Secretary in the President's Cabinet, as provided for in the Curtis-Reed Bill. Other objects of the Association are: a competent, well-trained teacher in every public-school position in the United States, with increased facilities for teacher training; continued investigation of educational problems as the basis for revised educational standards and methods; and active assistance to state and local affiliated associations in securing needed legislation and in promoting the interests of such associations.

The Association's monthly *Journal*, established in 1921, supports the policies and programmes of the Association, aims to reflect the activities of professional organizations, and gives special consideration to new movements in education of national and international interest. The Association also publishes an annual volume of *Proceedings* and numerous reports on the activities of the Association. *Research Bulletins* containing statistical information on educational subjects are issued regularly. The finances of the

Association are embodied in two funds, the current and permanent. The amount in the permanent fund on May 31, 1926, was \$227,331.31, and the receipts for the year ending on that date were \$378,202.32. The enrollment at the end of 1926 was 175,000. Headquarters of the Association are maintained at 1201 Sixteenth Street Northwest, Washington, D. C. Officers for 1926-27 were: president, Francis G. Blair, State Superintendent of Public Instruction, Springfield, Ill.; secretary, J. W. Crabtree, Washington; and treasurer, Henry Lester Smith, Indiana University, Bloomington, Ind.

**NATIONAL FORESTS.** See FORESTRY.

**NATIONALITY.** See INTERNATIONAL LAW.

**NATIONAL KINDERGARTEN ASSOCIATION.** An organization founded in New York in 1909 for the spread of kindergarten education. It works in coöperation with men's and women's organizations such as the Congress of Parents and Teachers, Federation of Women's Clubs, Woman's Christian Temperance Union, Federation of Labor, and Chambers of Commerce, many of which it was instrumental in interesting in this manner of early education. In 1912 the Association affiliated with the National Kindergarten and Elementary College of Evanston, Illinois, and from 1913 to 1919 it worked in coöperation with the United States Bureau of Education. It was through the efforts of the Association that the Kindergarten Division of the Bureau was organized, and in 1917, with the aid of the Bureau, it undertook the preparation of weekly articles on Home Education which were issued free of charge to the press. In 1926 these articles were being sent by request to nearly 1200 periodicals in the United States and to 44 foreign countries. Organizations were encouraged and assisted to work for better kindergarten legislation and by 1926 eleven states had secured petition laws, nine of them mandatory, as a result. During the year the Association was instrumental in opening 98 new kindergartens, making a total of 733 resulting from its work. These kindergartens were located in 440 towns and had trained 308,812 children. Kindergartens are opened largely through the efforts of Field Secretaries and 1926 witnessed a marked increase in the number of these representatives. The Association is supported by voluntary contributions, and its income in 1926 was nearly \$30,000. It has the unique record of having secured a year's training for one child for every dollar received. Officers in 1926 were: Maj. Bradley Martin, president; P. P. Claxton, honorary president; Mrs. Henry Phipps, first vice-president, Mrs. Charles Cary Rumsey, second vice-president; Mrs. Roger C. Aldrich, secretary; Julian M. Gerard, treasurer. Miss Bessie Locke was executive secretary, with headquarters at 8 West Fortieth Street, New York City.

**NATIONAL MUNICIPAL LEAGUE.** See MUNICIPAL LEAGUE, NATIONAL.

**NATIONAL PARKS.** See PARKS, NATIONAL.

**NATIONAL SAFETY COUNCIL.** An association of 4300 companies and individuals, representing 8000 workshops and 8,000,000 workers. It was formed as the result of a safety congress held in Milwaukee in 1912 under the auspices of the Association of Iron and Steel Electrical Engineers, and functions for the prevention of accidents in factories, streets, schools, and homes, as well as for the health,

comfort, and general welfare of the public at large. The Council supports an extensive safety service, issuing posters for bulletin boards, pamphlets describing safety practices, and a monthly magazine, the *National Safety News*. It maintains a staff of engineers, who are available for consultation, and forms schools for the instruction of foremen and safety supervisors, publishing for use in these schools loose-leaf outlines of lectures on subjects in which instruction is given. Among the special fields covered are those of engineering, public safety, education, health service, and the following industrial sections: automotive, cement, chemical, construction, electric railway, food, marine, metals, mining, packers and tanners, paper and pulp, petroleum, public utilities, quarry, rubber, steam railroad, taxicab and fleet-owners, textile and woodworking. Affiliated with the National Safety Council in 1926 were 65 Local Safety Councils, 52 with paid officers and 13, 4 of which were industrial councils, with voluntary officers. These local organizations were served by 3100 volunteer committeemen. Many of them were publishing their own magazines, bulletins, and other literature, and were of great service to their respective communities. Up to the end of 1926 the Council had aided in drawing up more than 40 national safety codes. Industrial sections were active, and many regional conferences were held. Eight community safety surveys were made during the year. The Council was represented at the Second National Conference on Street and Highway Safety, as were also many of the Local Safety Councils. The Council receives \$35,000 annually from the National Bureau of Casualty and Safety Underwriters for the support of an executive secretary and traveling secretaries engaged in educational research. The Fifteenth Annual Congress of the Council, held at Detroit, October 25 to 29, was attended by 5000 delegates. A large exhibit of commercial safety devices and appliances was shown. The officers elected at the Congress were: Walter G. King, president; A. W. Whitney, H. A. Reninger, C. E. Hill, W. F. Austin, Dr. L. A. Shoudy, C. E. Pettibone, H. E. Niesz, vice-presidents; H. M. Webber, treasurer; and W. H. Cameron, managing director. The headquarters of the Council are at 108 East Ohio Street, Chicago, Ill.

**NAVAL PROGRESS.** The tendencies which had been operative in the navies of the world since the Washington Conference were still active in 1926. Great Britain, France, and Japan were building light cruisers at a rate never before attained. France and Japan were also building flotilla leaders, destroyers, and submarines to the limit or beyond the limit of their financial resources. Spain was strengthening her navy rapidly, but was, of course, in the second class. Great Britain, which was placed in the lead by the enormous sacrifices of the United States in the Conference, was expected to lead the United States by a wide margin—even in capital ships—when the *Nelson* and *Rodney* were placed in service early in 1927. With a weakness in capital ships in the proportion of 5 to 4, or thereabouts, a deficiency in light cruisers, a total lack of flotilla leaders and large destroyers, a reduced rate of submarine construction, the increase in age of the destroyer fleet, its deterioration due to being laid up in reserve, and the reduction in numbers of of-

fliers and men, the United States had dropped back to a position of about 3.5 as regards England and Japan; so that the relative strengths of the three fleets were now about 5—3.5—3 instead of 5—5—3 as theoretically assigned by the Conference. Germany was building up to the limit permitted by the Versailles treaty, and was anxious to have the restrictions modified or removed.

#### NAVIES OF THE WORLD AT THE END OF 1926

**ARGENTINA.** The Argentine parliament allotted the sum of 32,000,000 pesos for building the following vessels: 2 light cruisers of 4000 to 4500 tons, 3 submarines of about 800 tons, 2 destroyers of 1200 to 1400 tons, 2 sailing sloops with auxiliary Diesel engines. The dreadnought battleship *Rivadavia* underwent rebuilding at Fore River, Mass., whereby her speed and offensive powers were much increased and many other important changes effected. Several Argentine destroyers were also undergoing repairs and alterations expected to nearly bring them up to date.

**AUSTRALIA.** The naval budget for 1926 was £3,921,145. At the beginning of the year there were building in England for the Australian navy two 10,000-ton light cruisers—the *Australia* and *Canberra*—and two submarines—the *Otway* and *Oxley*—which were similar to the new British submarine *Oberon* (ex-*O-1*) that had a displacement of 1365 tons on the surface and 1778 when submerged. A considerable sum was being expended for aviation and an aircraft carrier was building at Sydney.

**BRAZIL.** The personnel of the Brazilian navy consisted of 207 commissioned officers, 254 junior and warrant officers, and 3075 petty officers and men. The scout cruisers *Bahia* and *Rio Grande do Sul* had been reconstructed, the work being completed in 1926. These vessels have a displacement of 3100 tons. With new boilers and engines and oil fuel in place of coal the speed has been increased to 27 knots.

**CANADA.** Since the War, the Canadian naval budget had been reduced to trifling proportions. The allotment for 1926 being £280,000. Two submarines, *CH-14* and *CH-15* and the light cruiser *Aurora* were sold. The only vessels on the active service list were the destroyers *Patrician* and *Patriot* of 1020 tons, 35 knots, launched in 1916, and armed with 2 4-inch guns, 1 3-pounder, and 4 21-inch torpedo tubes.

**CHILE.** The government decided to reorganize the navy. It was proposed to order at once in Europe 6 destroyers. Later, several light cruisers were to be built. Naval aircraft were ordered in Italy.

**CHINA.** The navy of China has always been a peculiar force. Different squadrons belonged to different sections of the country. The rapidly changing fortunes of the great war lords rendered it doubtful to whom the various naval units owed allegiance.

**DENMARK.** The disarmament plans of the Denmark pacifists, which were proposed to the parliament two years ago, seem to have been definitely abandoned. During 1926, the navy had been conducting maneuvers that involved nearly all available vessels.

**EGYPT.** The naval force and coast-guard were still controlled by the British. Two coast-guard vessels of 1050 tons were building in England.

**FINLAND.** The government desired to build up a naval force sufficient for defense, but the parliament (Riksdag) cut the government proposals from 315,000,000 to 47,000,000 marks.

**FRANCE.** The naval budget for 1926, including supplementary credits, was about 1,512,000,000 francs. The budget for 1927 was 1,915,432,377 francs (about \$78,617,000 at the 1926 value of the franc). The new programme included the following vessels, all to be commenced in 1927: 1 light cruiser of 10,000 tons; 3 flotilla leaders of about 2700 tons; 4 destroyers of about 1500 tons; 1 submarine of about 3000 tons; 5 submarines of about 1560 tons; 2 mine-laying submarines; 1 submarine mother ship; 2 motor tankers; and 1 5400-ton cadet training ship. Since 1921, the French navy had completed or had commenced the following vessels: 3 light cruisers of 8000 tons; 3 light cruisers of 10,000 tons; 6 flotilla leaders of 2400 tons and 3 of 2700 tons; 12 destroyers of 1460 tons and 10 of 1495 tons; 3 submarines of 3000 tons; 12 submarines of 1500 tons; 3 submarines of 1150 tons; 12 submarines of 600 tons; 2 submarines of 760 tons (mine-layers); 1 aircraft carrier of 21,450 tons; 1 submarine mother ship; 2 motor tankers; 1 cadet training ship of 5400 tons. To man such of the new vessels as were practically complete at the end of 1926 required about 300 officers and 3000 men. The personnel of the service was to be increased to cover part of these requirements.

The French naval department had recently undergone a very extensive reorganization in regard to nearly all matters connected with the navy but particularly as regards the High Naval Command. The Vice-Admiral, who was Chief of the Naval Staff in time of peace, assumes supreme command of the navy on the outbreak of war, with the title of Commander-in-Chief of the French Navy, exercising this command from on shore. His duties as Chief of the Naval Staff are then undertaken by a vice-admiral, nominated in time of peace, who assumes the title of Deputy Chief of the Naval Staff. The importance of aviation in the French navy was fully realized but very little had been accomplished due to lack of proper organization and of competent direction.

**GERMANY.** The naval budget for 1926-27 was approximately \$49,503,000. One light cruiser of 5800 tons was completed in 1926; one was laid down in 1925; and two that were provided for in the 1927 budget were to be laid down in the current fiscal year. Since the armistice, provision has been made for 4 light cruisers to cost \$7,000,000 each, 12 destroyers at \$1,340,000, and 1 experimental torpedo boat at \$500,000. Further vessels were projected and some of the old ships were to be refitted and altered to an extent that would make them effective war vessels under modern conditions. The personnel of the navy consisted of about 14,000 officers and men—of which 18 per cent were commissioned or warrant officers.

**GREAT BRITAIN.** The navy estimates for 1926-27 provided for an expenditure of £58,100,000 (\$282,743,650). The enlisted force consisted of 102,675, and no material increase or decrease of these figures was anticipated. The 1926 building programme included 2 "A class" light cruisers of about 10,000 tons, 1 "B class" light cruiser of 8000 tons, 6 "O class" submarines, 1 submarine depot ship, 1 repair ship, and 4 motor



launches. Including the foregoing and the two 10,000-ton cruisers building for Australia, there were 14 light cruisers under construction, viz: the *Kent*, *Cumberland*, *Berwick*, *Suffolk*, and *Cornwall*, which had been launched; the *Shropshire*, *Sussex*, *London*, and *Devonshire*, which had been laid down during 1926; the 2 Australian cruisers; and the 3 cruisers of the 1926-27 programme. All but one of these cruisers were of 10,000 tons. The "O class" submarines were to be similar to the *O-1*, then called the *Oberon*, as all British submarines built after that time were to bear names instead of numbers. The *Oberon* had a displacement on the surface of 1480 tons and a submerged displacement of 1750 tons. The light cruisers *Effingham* (9900 tons), *Emerald* (7720 tons), *Enterprise* (7720 tons), the flotilla leader *Keppel* (1750 tons), and the submarine *L-27* (890/1080 tons) were vessels begun during the war and not completed until 1926. The submarine *L-26*, another war-time vessel, had not been reported complete. The destroyers *Amazon* (1330 tons) and *Ambuscade* (1210 tons) were practically finished, and the submarine *Oberon* was in the same condition. The mine-layer *Adventure* (6840 tons) was still under construction and the work was proceeding slowly.

The modernizing of the battleships and battle cruisers of the fleet was proceeding steadily. The battle cruisers *Repulse* and *Renown* were practically rebuilt; the five battleships of the *Royal Sovereign* class had been fitted with anti-torpedo bulges, deck-armor, etc.; and work on the *Queen Elizabeth* class was under way—the *Warspite* having been completed. There was a possibility that the *Iron Duke* class of battleships and the battle cruiser *Tiger* might not be refitted. They were the oldest and weakest vessels of the fleet.

The partial consolidation of the engineering and executive branches of the service which took place in 1903 had been abolished and the engineer officers were deprived of their executive rank and military status. Changes had also been made in the education and training of engineers and executive officers; also in the training and advancement in rating of the enlisted force. Owing to the reduction of the fleet and the necessity for economy, the dockyard at Pembroke and the large new yard at Rosyth were closed down, the force retained being sufficient only to take care of the buildings, docks, machinery, etc.

Work upon the great eastern naval base at Singapore was being carried on with as much speed as financial conditions permitted. Masonry dry docks had not yet been commenced and, as they were slow and expensive to build, a floating drydock of the largest size was to be constructed without delay. The contract for the dock was let on November 16, and it was to be completed in 18 months. When the dredging work was finished, and adequate shops built and equipped, the base was expected to be in operative condition, though eight or nine years were expected to elapse before the scheme was fully carried out. In order to help the Admiralty in financing its plans the Federated Malay States had agreed to contribute £2,000,000 and Hong Kong £250,000. The Admiralty was further developing the naval base at Malta for taking care of a fleet protecting the Suez Canal. A floating dock, capable of lifting vessels 1000

feet in length, was sent out in 1925. The new Indian navy was developing bases at Trincomali and the Andaman Islands but it was believed that these were chiefly intended to assist the cruiser strategy of the Royal navy.

Aviation in the British navy at the end of 1926 was most unsatisfactory to the navy in general. The control of the naval air force by the Air Ministry—though apparently waning—was still sufficient to prevent naval efficiency; and the partial control of aircraft carriers by the Air Ministry was declared to be intolerable as well as absurd. The total effect of existing conditions as to control had rendered British naval aviation, possibly, not much better than that of Japan and far inferior to that of the United States. It was, however, better than that of Italy and considerably more efficient than the French naval air force.

GREECE. A British naval commission was in Greece to assist in reorganizing and developing the navy and to assist in the administration afterwards. The cruiser *Ateroff* had been repaired, refitted, and modernized to some extent. Four destroyers had been similarly treated. The battleship *Salamis* had not yet been turned over to Greece owing to disputes with the builders. The old battleships *Kilkis* (ex-*Mississippi*) and the *Lemnos* (ex-*Idaho*) were undergoing repair in Greek dockyards as were a number of destroyers. Two, and possibly four, new destroyers had been ordered. Four submarines of 605/776 were ordered in France in 1925 and the contracts for 3 others of 730 tons each had also been placed.

INDIA. The Government of India announced on Feb. 11, 1926, its decision to reestablish the India naval service. With the approval of the King, the new organization had taken the name of the Royal Indian Navy and its vessels of war were to fly the white ensign. Its functions in time of peace were to be as follows: (a) Training of the personnel for service in war; (b) services for the Indian Government in the Indian Ocean and in the Persian Gulf; (c) organization of naval defense in ports under control of the Indian Government; (d) hydrographic service in waters adjacent to India; (e) water transportation for the government. Upon its organization, its fleet comprised 4 sloops, 2 patrol vessels, 4 trawlers, 2 surveying vessels, and a depot ship. The personnel of the previously existing minor services, which the new navy succeeded, were being adapted to the changed conditions as rapidly as practicable. Natives of India were enabled to rise to the rank of officer, the changes implied by this policy to be operative after consultation with the British Admiralty upon the details of administration, organization, and finance. Naval bases were to be established at Trincomali and in the Andaman Islands. The former, which had long been a subsidiary naval station, was to be further developed as a refitting and supply station for vessels of the British and Indian navies. Fifteen reservoirs, each holding 12,000 tons of petroleum, were already in existence and twenty-five others were to be built, the total capacity to be about 552,000 tons. Wharves are under construction and the land and aerial defenses were to be improved.

ITALY. The naval budget for 1926-27 amounted to 1,049,595,130 lire (1926 value of 1 lira = \$0.0447). This was an increase of 69,595,130



lire over the figures of the budget for 1925-26. The budget provided 31,053,000 lire for increased pay of the personnel, 33,500,000 for new naval construction, and 26,940,000 for coast defense and improvement of the military value of harbors. The personnel provided for in the budget was: Executive or line officers, 1031; naval engineers, 313; naval constructors, 117; surgeons, 184; pharmacists, 10; commissary officers, 217; chaplains in chief, 5; officers of the Corpo Reale Equipaggi, 350; petty officers, 6000; and men, about 37,000. The total items of the budget that were concerned with the vessels building and with those to be commenced in the financial year 1926-27 were 210,500,000 lire. The organization of the navy was reported to be very good and the general character of the service to be excellent. The chief of the naval general staff and the commander-in-chief of the Italian naval forces were selected by the council of the ministry from the list of admirals and vice-admirals and appointed by the King.

By a royal decree, the naval chief of staff was given wide powers. Subject to the general approval of the minister of marine, he controlled all matters pertaining to the construction of ships and other naval material, and the organization, equipment, and operations of the naval forces. The two light cruisers of 10,000 tons, the *Trento* and *Trieste* (see VESSELS, NAVAL, ETC., *Cruisers*) were under construction and three similar vessels were authorized but they had not been laid down. Of the 16 destroyers authorized since 1922, the four of the first series were completed in 1926. They are the *Quintino Sella*, *Francesco Crispi*, *Giovanni Nicotera*, and *Bettino Ricasoli*. The displacement was 1150 tons; length, 276.5 feet; beam, 28.2 feet; mean draught, 10 feet; armament, 3 4.7-inch guns, two 2-pdr. anti-aircraft guns, two sets of twin launching tubes for 21-inch torpedoes; horsepower of engines, 28,000; designed speed, 35 knots. On trial, the *Sella* developed 35,000 hp. and a speed of 38.2 knots; and another of the class had reached 38.8 knots.

The four destroyers of the second group were nearly complete and those of the third were well advanced. The boats of the second and third groups were larger than those of the first. Those of the second had a displacement of 1300 tons; length, 295.9 feet; beam, 30.18 feet; draught, 10.7 feet; horsepower, 34,000; speed, 35 knots; armament, four 4.7-inch guns on twin mounts, two sets of triple tubes for 21-inch torpedoes, and three anti-aircraft guns. The boats of the third group were of the same size, or of nearly the same size as those of the second, but were designed to be one knot faster. The boats of the fourth group had not yet all been laid down. Four submarines of 1360 tons and eight of about 800 tons were under construction. Their principal details were given in the YEAR BOOK for 1925, page 474. Another submarine, details not reported, was laid down in 1926. Several of the mining gunboats, mentioned in the YEAR BOOK for 1924, page 504, as laid down in 1924-25, had been launched. The *Durazzo*, of the smaller class, which was launched early in 1926, had a displacement of 610 tons; length, 196.8 feet; beam, 32.8 feet; draught, 5.9 feet; speed, 10 knots; carried 200 mines; and was armed with one 2.96-inch gun. The *Legnano*, of the larger class, was launched in May, 1926. She had a displacement of 700 tons; horsepower, 1500;

speed, 15 knots; carried 200 mines and was armed with two 3.9-inch guns.

The Italian aviation service was mainly under control of the army general staff, but the navy seems to have full control of the units turned over to it. The aviation budget, voted in May, 1926, provided for an expenditure of 700,000,000 lire. A law, passed in 1925, established the following standard for the Italian air forces: (a) an independent air fleet of 78 echelons; (b) an army air fleet of 57 echelons; (c) a naval air fleet of 35 echelons; (d) a colonial air fleet of 12 echelons; total, 182 echelons of 10 planes each. The plan was to be fully developed by the end of five years when the personnel was to consist of 2000 officers and 20,000 men. In the summer of 1926 the air fleet consisted of 90 echelons and 900 planes. Of the echelons assigned to the navy, six were to be attached to the fleet and 29 to coast defense. The great expansion of Italian aviation was due to the interest taken in it by Signor Mussolini, who believed that the great extent of the Italian coast line demanded an air force of the largest size compatible with the country's financial resources and the necessary expenditure for other purposes.

JAPAN. The recent naval programme and budgets had been heavily reduced before being approved by the parliament. The original programme of new construction for 1927-28, as presented, called for four 10,000-ton cruisers, eight destroyers and five submarine cruisers of about 2000 tons. This had been reduced to two 10,000-ton cruisers, four destroyers of about 1700 tons, and five submarines of about 2000 tons. The naval budget, as originally presented, called for the expenditure of 320,000,000 yen. This had been reduced to 255,000,000 yen; and the special budget for replacements in 1928-31 was cut from 297,000,000 yen to 244,000,000. The replacements planned for 1927-30 were as follows: 1927-28: 2 light cruisers of 10,000 tons, 4 destroyers, 1 submarine, 1 gunboat; 1928-29: 2 light cruisers of 10,000 tons, 4 destroyers, 4 submarines, 1 gunboat; 1929-30: 8 destroyers, 1 gunboat, 1 tanker, 1 repair ship, 1 aircraft carrier, 2 mine layers.

As the four cruisers to be replaced were of less than 5000 tons, the parliament reduced the new replacing cruisers to two. The vessels building at the end of 1926 are listed in the accompanying table. Those noted as "authorized" were submitted in the budget and approved by parliament but, at the end of 1926, had not yet been laid down. The aircraft carrier *Akagi* was commenced as a battle cruiser and transformed into a carrier. The *Kaga* was commenced as a battleship and similarly transformed. It was said that each was designed to carry 50 planes. The anticipated speed of the *Akagi* was reported to be 28 knots; that of the *Kaga* somewhat less. Both were nearly ready for service. The aircraft carrier *Naruto* was formerly a tanker and was being transformed into a carrier; the progress of the work had not been reported. The light cruisers *Aoba* and *Kinugasa* were similar to the *Furutaka* and *Kako*, which were completed in 1926, but carried their 8-inch guns in pairs in three turrets, two forward and one aft—all on the midship line; while the *Furutaka* and *Kako* had their guns mounted singly in gunhouses on the midship line, three forward, three aft—the central gun of each group being raised

high enough to fire over the other two. The lists of submarines and destroyers are only approximate. Some may have been completed and some not yet laid down. The exact significance of the letters prefixed to the numbers of submarines has not been explained in the public press.

Some of the data in regard to destroyers and submarines was derived from the Japanese newspapers and is probably inexact. The submarines of 1400 tons (surface displacement) were reported to have a submerged displacement of about 2000 tons; those of 998 tons (surface) to have a displacement of about 1500 tons when submerged; and the one of 1500 tons (surface) to have a submerged tonnage of 2200. If these figures are correct, the boats should be high out of water when on the surface and should be slow to submerge; yet one of the 998-ton boats in service was reported to have submerged in 52 seconds and others of the same class in 55. The designed speed of the 998-ton boats was 17.5 knots on the surface and 10 knots; the speeds of the 1400-ton class were 20 and 12 knots; and those of the 1500-ton class were 25 and 12. Some of the 20 boats whose details were not given have displacements of about 700 tons. The 1400-ton boats carried one 4.7-inch gun and two smaller pieces; the 1500-ton boats carry two 4.7-inch and one 3-inch. The eight gunboats are designed for use on Chinese rivers and were to replace old and less efficient boats; they were to have displacements of 150 to 300 tons.

#### WARSHIPS BUILDING FOR JAPAN

Name	Tons	Condition
<b>Aircraft carriers:</b>		
Akagi .....	26,900	Launched 1925
Kaga .....	26,900	Launched 1921
Naruto .....	15,000	.....
<b>Light cruisers:</b>		
Nachi .....	10,000	not launched
Myoko .....	10,000	do.
Ashigara .....	10,000	do.
Haguro .....	10,000	do.
1 authorized .....	10,000	not commenced
1 authorized .....	10,000	do.
Aoba .....	7,200	Launched 1926
Kinugasa .....	7,200	do.
<b>Destroyers:</b>		
5 building .....	1,400	some launched
7 building .....	1,800	do.
4 authorized .....	.....	not commenced
<b>Submarines:</b>		
I-21 .....	1,000	Launched 1926
A-54 .....	1,400	do.
A-56 .....	1,400	do.
Ro-67 .....	998	do.
1 ——— .....	1,500	do.
20 building .....	?	?
5 authorized .....	?	not commenced
<b>Gunboats:</b>		
8 authorized .....	?	not commenced

The aviation service of the Japanese army was said by the Japanese press to be defective and inefficient. They considered that the naval aviation service was much better, though lacking in organization and in an understanding of the strategical and tactical rôle to be played by naval aircraft. Too much time had been spent on long flights—too little time in learning their duties with the fleet. After a careful study of naval aviation in Europe and the United States, the authorities had apparently decided to develop their air service along the same lines that the United States Navy had adopted, rejecting definitely all consolidation plans or the organization of any fighting air force not controlled either by the army or the navy.

**LATVIA.** At the end of 1926, two small submarines and two mine sweepers were approaching completion. The submarines, *Spidola* and *Ronis*, were similar in all respects. The former was launched on October 6 and the latter on July 1. The surface displacement was about 400 tons; length, 170.4 feet; beam, 15.1 feet; surface speed, 14 knots; submerged speed, nine knots; surface radius of action 1600 miles; submerged radius, 85 miles; armament, six torpedo tubes (four admit of some train) of 17.7 inches, one 3-inch anti-aircraft gun and two machine guns; complement, three officers and 28 men. The mine sweepers, *Imanta* and *Viesturas*, have a displacement of 255 tons; length, 152.8 feet; speed, 14 knots; armament, 1 anti-aircraft gun of 3.15 inches, and 4 machine guns; complement, 3 officers and 35 men.

**NETHERLANDS.** The estimates of the naval budget for 1927 provided for an expenditure of 40,982,965 florins (1 florin = \$0.40). The building programme called for the laying down of two destroyers for service in the East Indies and the submarine *O-12* for home defense. The light cruiser *Sumatra* was completed in 1926, visiting New York in October. It had a displacement of 7150 tons and a speed of 31.8 knots on trial. The length over all was 509.4 feet; beam, 52.5 feet; mean draught, 18 feet. The battery consisted of ten 50-cal. 6-inch guns, four 3-inch anti-aircraft, and four machine guns. An armor belt of 3 inches thickness protected the water line and the conning tower was 5 inches thick. The submarine *K-XII* was completed early in 1926, also the submarines *O-9*, *O-10*, and *O-11*. The surface and submerged displacements were 670 and 720 tons and the corresponding speeds 18 and 9 knots. The armament was 6 torpedo tubes and 1 3-inch gun. The budget estimates allot 12,136,620 florins for new construction including the three vessels to be commenced in 1927. Of this, the colonies are charged with 5,807,810 florins. There were building four large destroyers of 1620 tons and two patrol vessels (YEAR BOOK, 1925, p. 475) of 1676 tons. In July, 1926, the Netherlands parliament voted supplementary credits for the transfer of the naval school from Gorinchem to Flushing.

**NEW ZEALAND.** The naval budget for 1925-26 was £538,325 (\$2,511,286.12).

**NORWAY.** It was reported that the Norwegian navy would expend 20,000,000 crowns (present value of 1 crown = \$0.2515) in strengthening its naval forces. The armed coast-defense ships, *Tordenskjold* (3920 tons), *Harald Haarfagre* (3920 tons), *Fidsvold* (4233 tons), and *Norge* (4233 tons), all completed between 1898 and 1901, were to be rebuilt and modernized as far as practicable, receiving new machinery and batteries of twelve high-powered 6-inch guns. New construction was to be undertaken which would comprise flotilla leaders, destroyers, submarines, and aircraft.

**PERU.** The Peruvian government had placed an order with the Submarine Boat Corporation in the United States for two submarines. The surface displacement of each was to be 570 tons and the submerged displacement 670 tons; the corresponding speeds were 14.5 and 10.5 knots. The length was to be 200 feet. The propelling machinery for surface cruising was to consist of two Diesel engines of 440 horsepower and the estimated cruising radius was 8000 miles. The armament was to consist of four torpedo tubes

and one 3-inch anti-aircraft gun; and the complement of 4 officers and 24 men. The boats were expected to be finished in 1928.

POLAND. The *Burza* (Tempest) and the *Wicher* (Breeze), two large destroyers for the Polish navy, were under construction in France. Their principal characteristics were: displacement, 1540 tons; length on the water line, 338.5 feet; beam, 33.5; mean draught, 10.2 feet. The sea-going fleet was formed in two divisions: the first, called the torpedo division, consisting of three torpedo boats of the *Slazas* class (350 tons) and the *Hazur* of 420 tons; the second, called the practice division, was composed of the gunboats *Commandant Pileudski* and the *General Haller*—each of 340 tons.

RUSSIA. Except where German advice, assistance, and partial control had been given, the Russian navy was still very inefficient and the fleet—if this name could be applied to a collection of ill-kept vessels without organization—was wholly negligible as a weapon of war. Some of the officers of the old navy had taken service in the Soviet vessels and helped to prevent total ineffectiveness. The glaring fault which lay at the root of these conditions was a lack of proper discipline without which no military force can be of use. Nor can this fault be remedied so long as the bolshevik principles are carried out. There were no grades of officers from seamen to commander, the sole distinction being concerned with the charge with which individuals were invested. Apparently, duties of importance may be assigned to any good bolshevik without regard to his knowledge or capacity. The recruiting was carried out in two ways—conscription and volunteering. About 25 per cent of the conscripts reenlisted for a later period of voluntary service.

The prime requisite for the acceptance of a volunteer was a firm faith in communistic principles; the second requirement was the ability to read and write. The enrollment took place in the autumn. During the winter and spring the recruit was given a course of preliminary instruction on board ship and ashore. In the summer, service in the active ships was commenced. In the following autumn, those men who desired to take the course for becoming officers were given an examination. In this way about 300 young men were admitted to the preparatory schools in the summer vacations during three years. These schools were open to all branches. After finishing the preparatory school work, those that were competent to continue study entered the naval school and the school of marine engineering, frequently taking higher courses, and finally entered the naval academy which was divided into the following branches: general staff, artillery, machinery, naval construction, electricity, and hydrography.

The periods spent in the various schools and courses of study were not then definitely fixed because the new bolshevik admiralty had, so far, been unable to make the young men pass rapidly through all the school courses. However, some officers of the old imperial navy, readmitted to the service, had been able to follow the higher courses of the academy. As already stated, the bolshevik navy admits no grades—only the capacity to command. Those young men that were retained because of having this capacity wore a uniform with a narrow stripe on the left arm surmounted by a red star. Command was only

exercised on board ship or in naval territory on shore. Elsewhere the enlisted men were not required to obey or salute. On small vessels the officers ate at the same table with the men; on the larger ships the food was the same for all, but the captain and certain other officers ate by themselves. A characteristic of all ships was "the corner of Lenin," a place of recreation adorned with portraits of Lenin and Trotsky where officers and men amuse themselves together.

Various building programmes were published from time to time, but few appear to have been carried out even in part. One announced by the Soviet authorities proposed the construction of 10 small submarines of 130 tons and a radius of 200 to 300 miles, 15 motor driven submarine chasers, and several flotilla leaders of about 2200 tons. Much attention was paid in Russia to aviation. Sixty planes were said to have been attached to the Baltic Fleet and 100 to the Black Sea. The condition and usefulness of these planes was unknown. There should have been no difficulty in obtaining men suitable for pilots; but few high-grade mechanics, competent to care for airplane machinery and keep it in repair, were likely to be found in Russia, unless French and German mechanics were employed.

SOUTH AFRICA. The naval budget for South Africa was the least of any of the British self-governing colonies. The amount allotted for naval affairs in 1926 was £139,893 (\$680,789.28).

SPAIN. A royal decree of July 4, 1926, concerning a special budget of 3,454,000,000 pesetas (1926 value of 1 peseta = \$0.1525), had accorded to the navy a total of 877,000,000 pesetas. The expenditure of this fund was to be spread over ten years. The sum of 175,000,000 pesetas was to be applied as follows: to improve the naval bases of Mahon, Cartagena, and Vigo; to establish an aviation school at Barcelona; to the construction of powder magazines at Cartagena, Cadiz, and Ferrol; to build shops for the manufacture of torpedoes, submarine mines, nets, cables, etc. The remainder of the fund, 702,000,000 pesetas, was for new construction: (a) the completion of the three light cruisers *Almirante Cervera*, *Miguel de Cervantes*, and *Principe Alfonso* (each of 7975 tons); of six flotilla leaders of the *Churruca* type (1650 tons); of six submarines of type C; and of the school ship *Juan Sebastian Elcano* (3600 tons—fitted with sails and auxiliary Diesel-engine power); (b) to the building of three light cruisers of 10,000 tons (95,000,000 pesetas each, including equipment); three flotilla leaders of the *Churruca* type of 1650 tons (17,000,000 pesetas each); twelve submarines of type C (12,000,000 pesetas each); (c) two tankers of 7000 tons; three patrol boats of 250 tons; and several mine-layers and minesweepers.

The only naval vessels completed during 1926 were the flotilla leader *Churruca* of 1650 tons and the destroyers *Alcedo*, *Lazaga*, and *Velasco* of 1145 tons. The *Churruca* developed a mean speed on trial of 37.6 knots and a maximum of 39.8. The destroyers attained speeds of 36.4 to 38.2 knots. The light cruiser *Almirante Cervera* was launched in October, 1925, and a new ship of the same class, the *Miguel de Cervantes*, was laid down in the summer of 1926. The Spanish naval aviation school is on the grounds of the naval academy at Barcelona and has for experimental use a small airplane carrier which saw service

during the Riff war. The Spanish aviation programme was contemplating an enlargement of this school so as to provide aviators for both the army and the navy. This was opposed by the navy on the ground that the requirements of the two services were so different that the schools had best be separated.

**SWEDEN.** It was proposed in Sweden to bring forward with some changes the plans of 1914 for the defense of the country. The ministry of defense was to be composed of the division of the army and the division of the navy. The proposed changes were too extensive for detailed consideration here: they involved an increase in both army and navy budgets of about 20 per cent. The vessels building for the Swedish navy consisted of two destroyers of 974 tons and 35 knots and one submarine of 1000 tons (surface displacement).

**TURKEY.** The Navy was being developed in a modest but most definite manner. While the navy yard at Constantinople was for the time being preserved, a new naval port and dockyard was being developed at Ismid on the Black Sea beyond the limits of the Zones of the Straits that were defined by the International Commission. A new floating dock of 26,000 tons capacity was under construction at Lilbeck for the new port. The Flenders Company, which was building a gunboat as well as the floating dock, had a contract for shops and tools for the new dockyard. The Turkish government had also ordered two submarines from Rotterdam builders.

**UNITED STATES.** The appropriations for the navy for 1926-27 were \$322,061,975. The budget estimates for 1927-28, as presented to Congress in December, 1926, were \$313,815,500. No additional cruisers were authorized in the new budget; and no appropriation recommended for the remaining three cruisers authorized in a previous session of Congress, nor for airships; and provision was made for only a small part of the first year's share of the five-year authorization for aviation. The naval bill was under discussion in Congress at the end of the year, and some changes from the budget allotments were probable. At the end of 1926 there were under construction: 2 aircraft carriers of 33,000 tons (*Saratoga* and *Lexington*) which were expected to be ready for service before July 1, 1927; 2 light cruisers of 10,000 tons (*Pensacola* and *Salt Lake City*) which were to be completed in the summer of 1929; 3 fleet submarines (*V-4*, *V-5*, and *V-6*), the first of which was expected to be completed in about a year, the other 2 in about two years; 6 river gunboats of 380 to 580 tons, building at Shanghai, China, all to be completed in 1927. The older battleships were undergoing a general refit and a certain amount of modernizing. The *Utah*, *Florida*, *Arkansas*, *Wyoming*, *Texas* and *New York* were in hand. These vessels were to be fitted with bulge and other protection against torpedoes; the upper decks were to be increased in thickness as a defense against aerial bombs; new boilers designed to burn oil only were to replace the old ones (which burn either coal or oil and are less efficient for oil burning only); the necessary changes in boiler rooms, bunkers, and oil tanks were to be made; the cage masts were to be replaced by new types of tripod masts; and the smokepipes reduced in number and changed in shape.

No increase in the personnel of the navy was

provided for in the budget for 1927, the numbers remaining substantially the same as given in the YEAR BOOK for 1925, page 476. The bill authorizing the reorganization of the naval reserve was approved to take effect on July 1, 1925, and the reorganization was in part completed. Units of the Reserve Officers Training Corps were established in six universities and it was intended to establish other units in suitable localities so that there should be, roughly, one for each naval district. Instruction was to be given in ordnance, seamanship, and navigation—three hours a week for the first two years, five hours for the last two. Additional summer practice work was to be given. Students graduating from the Corps were to receive commissions as ensigns in the Naval Reserve. Aviation in the United States navy was maintaining its lead over that in other naval services and increasing it in some directions. The completion of new aircraft carriers was expected to improve aviation in the fleet and to develop it in a manner not previously practicable.

Instruction in aviation as a part of the Naval Academy course, was being given; and the aviation reserve was organized in 10 squadrons distributed among the naval districts—4 of the 10 units providing preliminary flight training for about 90 aviators a year. Reports stated that all battleships and large cruisers were equipped with catapults. All battleships carried 1 scouting and 2 combat planes and the large cruisers 2 scouting planes. There were no small fast cruisers in the navy, but about 18 destroyers carried 1 combat plane and 9 of the larger submarines were being equipped with 1 small scouting plane. In no other navy were catapults and airplanes carried by any type of fighting ship, though the Japanese and French were planning to so equip their battleships and cruisers. See VESSELS, NAVAL, ETC.

**NAVARRO, ALFONSO DE.** Vice-President of the Atlas Portland Cement Company, died at Brechin, Scotland, on August 15. He was born in New York in 1860, his father, José de Navarro, being at one time Consul General for Spain in the United States. Mr. de Navarro had been abroad a month when his totally unexpected death occurred. He was also a Director of the New York and New England Cement and Lime Company, the Hannibal Connecting Railroad, and the Northampton and Bath Railroad, while he held similar office in connection with the Equitable Life Assurance Society.

**NAVIES.** See NAVAL PROGRESS; VESSELS, NAVAL, ETC.

**NAVILLE, EDOUARD.** Swiss Egyptologist, died at Geneva, October 17. He was born in Geneva in 1844, and was educated at the university there, at King's College, London, and at Bonn, Paris, and Berlin. He was a member of many learned and religious societies, was at one time President of the Evangelical Alliance, and for several years Professor Naville was President of the International Red Cross. He spent some forty years in excavation in Egypt and professed a great admiration for England and English scholarship. By reason of his many activities and sympathies he was able to use the results obtained by British Egyptologists in the furtherance of his own researches into Biblical Archaeology. He was much to the fore in 1923, when he declared that the tomb discovered by Howard Carter and Lord Carnarvon was not the

one which Tut-ankh-amen had prepared for himself and in which he was first laid. He maintained that the tomb intended by Tut-ankh-amen for his own use had been usurped by the second of his successors, Horemheb, an event for which, he asserted, there was ample precedent. Books to the number of a score came from Professor Naville's prolific pen.

**NEBRASKA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920 was 1,296,372. The estimated population on July 1, 1926, was 1,385,000. The capital is Lincoln.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	8,994,000	139,407,000	\$94,797,000
	1925	9,100,000	236,600,000	144,326,000
Hay, tame	1926	1,761,000	3,288,000 *	45,962,000
	1925	1,672,000	3,635,000 *	43,984,000
Wheat, winter	1926	2,881,000	37,165,000	43,483,000
	1925	2,493,000	31,661,000	44,642,000
Wheat, spring	1926	196,000	2,920,000	3,270,000
	1925	183,000	2,489,000	3,285,000
Oats	1926	2,537,000	52,516,000	21,006,000
	1925	2,699,000	73,953,000	26,623,000
Potatoes	1926	73,000	5,329,000	8,526,000
	1925	84,000	6,300,000	11,340,000
Barley	1926	227,000	4,699,000	2,725,000
	1925	233,000	5,662,000	3,057,000
Rye	1926	253,000	2,606,000	1,981,000
	1925	205,000	2,522,000	1,791,000
Sugar beets	1926	79,000	920,000 *	
	1925	60,000	933,000 *	5,574,000

\* tons.

**MINERAL PRODUCTION.** Mineral industries hold a minor place in the productive activities of the State. Production of sand and gravel, the most important of them, attained a total of 2,008,400 short tons in 1924 and of 1,930,104 short tons in 1923; in value, \$1,099,499 in 1924 and in 1923 \$921,433. Clay products had a value of \$796,725 in 1924 and \$939,138 in 1923. Pumice and potash were also produced. The total value of the State's mineral products, duplications eliminated, was in 1924 \$3,209,425; in 1923 \$3,302,397.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$8,423,505. Their per capita rate was \$6.24, as against \$6.06 in 1924 and \$3.86 in 1917. The total included \$1,310,052 for education, apportioned among minor State divisions. Expenses totaling \$1415 for interest on State debt and \$5,055,035 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of State payments \$13,479,955. For highways was expended the sum of \$3,816,267, of which \$145,362 was for maintenance and \$3,670,905 for construction.

Revenue receipts of the State were \$12,485,360, or \$9.25 per capita. They exceeded by \$4,060,440 the total payments except those for permanent improvements, and were \$994,595 less than the total with these included. Property and special taxes formed 47.8 per cent of the revenue in 1925, as against 54.4 per cent in 1924 and 60 per cent in 1917. Their per capita rate was \$4.42 in 1925, \$4.94 in 1924 and \$2.55 in 1917. Earnings of the general departments and com-

pensation for officials' services furnished 13.6 per cent of the 1925 revenue; business and non-business licenses, 10 per cent. License receipts were derived chiefly from taxes on incorporated companies and on the sale of gasoline and from the licensing of automobiles.

The State had in 1925 no indebtedness save that represented by its outstanding warrants. The assessed valuation of property subject to State tax was \$3,189,188,337. The State tax levy was \$5,806,398, or \$4.30 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 6189. There was constructed in 1926 12 miles of new first track.

**CHARITIES AND CORRECTIONS.** The Department of Public Welfare includes the Bureau of Health with the following divisions: venereal disease, vital statistics, child hygiene, and laboratories; the Bureau of Child Welfare; and the Bureau of Examining Boards. The State institutions are under the State Board of Control. Chief among the charitable and correctional institutions of the State are the following: State Penitentiary at Lincoln, with 652 inmates in September, 1926; State Industrial School, Kearney, population 209; Girls' Training School, Geneva, 226; state reformatories at York (for women) and at Lincoln (for men), with a combined population of 299; hospitals for the insane (three); Hospital for the Tuberculous, Kearney, 89; Home for Dependent Children, Lincoln, 122; Soldiers' and Sailors' Home, Milford, 132; and at Burkett, 264; schools for the deaf, Omaha, 190, and blind, Nebraska City, 46; Nebraska Institution for the Feeble Minded, Beatrice, 845.

**EDUCATION.** Charles W. Taylor was elected State superintendent. The operation of the law of 1925 revising the certification of teachers was represented as promoting an advance in professional standards of the teachers in the State. The University of Nebraska liberalized its entrance requirements and undertook to give special guidance to the lower quartile of the incoming freshman class. The school population of the State was placed in 1926 at 415,053 children between the ages of 5 and 21. The total public school enrollment was 327,472, of which number 324,733 were enrolled in common schools and 2739 in accredited high schools. Expenditure for public education during the year was 22,451,050. Salaries of teachers in rural schools averaged \$798. In city and village schools salaries averaged \$1978 for men, and for women \$1326 a year.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Governor Adam McMullen, Republican candidate to succeed himself, was elected Governor for the two year term beginning Jan. 1, 1927. He won by a narrow lead of 3432 over the Democratic candidate, former Governor C. W. Bryan.

Difficulties between farmers and the irrigation administration became acute early in the year on the North Platte irrigation area. Farmers in the spring charged the government with failing to supply necessary water for the growth of crops, and officials demanded the payment of arrears on water dues. A gathering of farmers at Scott's Bluff, May 28, burned in effigy the Secretary of the Interior and the Director of Reclamation, after refusing payment of arrears. The Department of the Interior proposed as a possible solution a plan by which the local

water users' association would take over the reclamation project.

**OFFICERS.** Governor, Adam McMullen; Lieutenant-Governor, George A. Williams; Secretary of State, Charles W. Pool; Treasurer, Charles D. Robinson; Auditor, George W. Marsh; Attorney-General, O. S. Spillman; Superintendent of Public Instruction, John M. Matzen.

**JUDICIARY.** Supreme Court; Chief Justice, Andrew M. Morrissy; Associate Justices: William B. Rose, James R. Dean, W. H. Thompson, George E. Eberle, Edward E. Good, George A. Day.

**NEBRASKA, UNIVERSITY OF.** A State institution of higher education at Lincoln, Neb.; founded in 1869. The enrollment for the fall term of 1926 was 6115, of whom 3447 were men and 2668 women. They were distributed as follows: agriculture, 448; arts and sciences, 1947; business administration, 718; dentistry, 99; engineering, 611; graduate, 248; law, 161; medicine, 281; nursing, 85; pharmacy, 130; teachers' college, 1442. Included in arts and sciences and in teachers' college are 448 students of the school of fine arts and 133 of the school of journalism. There were 3355 students registered in the summer session, of whom 967 were men and 2388 women. The faculty numbered 336 in the autumn of 1926. The total income for the year was \$3,783,550. The library contained 200,000 volumes. Chancellor Samuel Avery, Ph.D., LL.D.

**NEBULÆ.** See ASTRONOMY.

**NECROLOGY.** The following list contains the names of notable persons who died in 1926. Articles will be found in this volume, in their alphabetical order, on those whose names are given below without other text.

Abbott, Edwin.  
Adami, John George.  
Aitchison, John Young.  
Akeley, Carl Ethan.  
Albers, Henri.  
Allen, Charles Watson. American publisher, died at Boston, Mass., Nov. 29. He was born in Roxbury, Mass., Jan. 6, 1849, and became connected with Ticknor & Fields, publishers, in 1866. In 1869 he entered the employ of Little, Brown & Co., publishers, later becoming a partner, and president of the company when it was incorporated in 1913.  
Allen, The Rt. Rev. Edward Patrick. Roman Catholic Bishop of Mobile, died at Mobile, Ala., Oct. 21. He was born at Lowell, Mass., Mar. 17, 1853, and after studying at Mount St. Mary's College, Baltimore, Md., where he received the degree of A.M. in 1878, and after theological studies, was ordained as priest Dec. 17, 1881. He was professor of English and Greek at Mount St. Mary's College, 1881-82. In 1883-84 he was pastor at Framingham, Mass., and in 1884 president of Mount St. Mary's College, serving until 1897, when, on May 16, he was consecrated fifth bishop of Mobile.  
Allen, Fred Hovey. American clergyman, author and art critic, died in New York City, Dec. 24. He was born at Lyme, N. H., Oct. 1, 1845, and after graduating from Harvard Theological Seminary in 1875 studied at Boston University, and in Berlin, Vienna, and Paris. He founded the *Lawrence (Mass.) Eagle* in 1867, serving as its editor until 1869, when he became proprietor and editor of the *Suffolk County Journal*, Boston. He was ordained to the Congregational ministry in 1874, and was acting pastor at North Brookfield, Mass. for a year; this tenure was followed by service in various churches in and about Boston until 1902. He was the author of many books dealing with art, history and travel.  
Allison, Sir Robert Andrew. British scholar, died in Carlisle, Jan. 15. He was born at Stanwix, Carlisle, Mar. 5, 1838, and was educated at Rugby and at Trinity College, Cambridge. As a Liberal, he represented the North Division of Cumberland in Parliament, 1885-1900. He was a strong supporter of the temperance movement, being vice-president of the United Kingdom Alliance. He was also a director of the Midland Railway. His literary works include: *Essays*

and *Addresses*, 1913; *Five Plays of Plautus*, 1914; *Belgium in History*, 1914; *Cicero's De Senectute* (translated into blank verse) 1916; *Lucretius' De Rerum Natura*, 1919, and other translations.

Amendola, Giovanni.

Atkins, Edwin F. American sugar importer and manufacturer, died at Belmont, Mass., May 20. He was born in Boston in 1850. Entering his father's sugar business, he became a partner of E. Atkins & Co. in 1874, and was president of the Bay State Sugar Refinery, 1878-88. He was also connected with the American Sugar Refining Co. serving as chairman of the board of directors until July 13, 1915, when he resigned, to continue as a director until 1920. Mr. Atkins was a vice-president of the Union Pacific Ry. System, 1889-95, president of the Aetna Mills, a director of the Westinghouse Electric & Manufacturing Co., the Westinghouse Electric International Co., and other commercial organizations.

Ayres, Frederic (real name Johnson). An American composer, died at Colorado Springs, Colo., Nov. 23. Born in Binghamton, N. Y., in 1876, he studied under E. S. Kelley and Arthur Foote. In 1902 he settled in Colorado Springs as a teacher of composition, lecturer, and writer. His compositions include an overture, *From the Plains*, a string quartet, two piano trios, a violin sonata, and piano pieces.

Bacardi, Facundo. A Cuban distiller, died at Havana, Nov. 22. He was born in 1842 of a Spanish father and French mother, and in 1862, with his brother, Emilio, established a still at Santiago de Cuba. This enterprise was a small one, as the brothers did not possess much capital, but they gradually acquired a reputation for their product, which was known throughout the world. Their business survived the various revolutions in Cuba, and with more settled conditions became one of great profit, Bacardi rum becoming known the entire world over.

Baddeley, Sir John James. Former Lord Mayor of London and London antiquarian, died at Lakefield, Stoke Newington, England, June 28. He was born at Hackney, Dec. 22, 1842. He was chairman of the Cripplegate Foundation, and was knighted in 1909. He was Lord Mayor of London in 1921-22, and was created a baronet in 1922. He was a Commander of the Swedish Order of Wasa, the Russian Order of St. Anna, and the order of the Crown of Belgium. He wrote several works connected with London history, including *A History of St. Giles's Church, Cripplegate*; *A History of the Guildhall*; *The Aldermen of the City of London from 1275; Cripplegate Ward*.

Bailey, Eli Stillman. American surgeon and former dean of Hahnemann Medical College, Chicago, died in that city Apr. 26. He was born at Little Genesee, N. Y., Sept. 2, 1851, and graduated from Milton College, Wisconsin, in 1873, and from Hahnemann Medical College, Chicago. He practiced in Chicago from the time of his graduation, and was among the first to use the microscope, the clinical thermometer, and radium.

Baker, Darius. American jurist and former judge of the Rhode Island Supreme Court, died at Newport, R. I., Mar. 19. He was born at Yarmouth, Mass., Jan. 18, 1845, and graduated from Wesleyan University in 1870, previously having served in the Civil War in the Fifth Regiment of Massachusetts Volunteers. He was admitted to the Connecticut bar in 1874 and removing to Rhode Island, was judge of probate, 1877-98, at Newport. He was also municipal justice, 1879-86, and justice of the First District Court, 1886-1905; in the latter year he became justice of the Superior Court and served until 1913, when he became justice of the Supreme Court, a position he held until his resignation Mar. 13, 1919. He served as a trustee of Wesleyan University, 1887-1912.

Bamberger, Simon. Railway president and former governor of Utah, died at Salt Lake City, Utah, Oct. 6. He was born at Darmstadt, Germany, Feb. 27, 1847, and went to the United States in 1861. In 1869 he moved to Utah. In 1908 he became a member of the Utah Senate, serving until 1907. He was Governor of Utah for the term 1917-21, being the first Democratic Governor of that state as well as the first non-Mormon Governor.

Bancroft, Sir Squire.

Barrett, Field Marshal Sir Arthur (Arnold). British soldier, died in Bedfordshire, England, Oct. 20. He was born June 3, 1857. Entering the army in 1875, he was commissioned captain in 1886, and rose through successive grades to the rank of General in 1917. He served in the Afghanistan war, 1879-80, and in 1891. He participated in other frontier campaigns, and was brigade commander at Nowahera, 1907-09, and adjutant-general in India, 1909-1912. He was divisional commander at Poona, 1912-14. In the World War he commanded in the early operations in Mesopotamia. He had the northern command in India, 1916-20. He received many honors, in addition to his



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OSCAR S. STRAUS

Former Ambassador to Turkey and Secretary of  
Commerce and Labor



*Notman*

CHARLES WILLIAM ELIOT

President Emeritus  
Harvard University



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CARDINAL MERCIER

Primate of the Roman Catholic Church in  
Belgium



*Harris & Ewing*

JAMES KETELTAS HACKETT

American Actor

FOUR PROMINENT MEN WHO DIED IN 1926





military decorations, culminating in his appointment as Knight Grand Commander of the Order of the Star of India, in 1920.

Barth, Charles H. American soldier, died at Leavenworth, Kan., Dec. 5. He was born in Iowa, Dec. 28, 1858, and, graduating from the U. S. Military Academy in 1881, was commissioned second lieutenant in the 12th Infantry. He served through the various grades to that of brigadier-general, Dec. 2, 1922. He fought in the Apache Indian campaign in 1881, and, after graduating with honors from the Infantry and Cavalry School at Ft. Leavenworth, Kan. in 1891, became an assistant instructor, serving in that capacity until 1898. He served in the Philippine insurrection, 1899-1902. On the outbreak of the World War, he was commander of the 156th Depot Brigade and 81st Division at Camp Jackson, S. C., and later commanded the 12th Infantry Brigade and the 7th Division in Texas and in France. He was recommended twice for the D.S.M. and was decorated with the Legion of Honor and the Croix de Guerre by the French Government. On Aug. 29, 1921, he was made colonel of the 57th Infantry. Later he commanded the 23rd Infantry Brigade; he was retired Dec. 28, 1922. In 1925 General Barth was appointed governor of the National Military Home in Kansas.

Bassett, Harry H. American manufacturer, died at Neuilly, Paris, France, Oct. 17. He was born in Utica, N. Y., Sept. 11, 1875, and after graduating from the Ilion, N. Y. High School went to work with the Remington Arms Co. in that city. He rose to be assistant to the general manager of the plant, and later became assistant superintendent of the plant of the Weston-Mott Co., of Utica. He was appointed manager of the new plant built for that company in Flint, Mich., in 1907, and became general manager of the company in 1913 and vice-president in 1917. When the Weston-Mott Co. was consolidated with the Buick Motor Co., in Dec. 1913, he became assistant general manager of the latter, and in Apr. 1919, general manager. A month later he was elected vice-president and director of the General Motors Corporation, and in Jan. 1920, he became president of the Buick Motor Co., a position he held at the time of his death.

Bates, David Homer. Telegraph operator for the United States War Department during the Civil War, died at New York, June 15. He was born at Steubenville, Ohio, July 2, 1843. During the Civil War he was manager of the War Department telegraph office and came in contact frequently with President Lincoln, who would visit the cipher room to receive the latest news from the field. After the war he entered the service of the Western Union Telegraph Co. He published, in 1911, *Lincoln in the Telegraph Office*. At the time of his death he had prepared another small book entitled *Lincoln's Stories in the Telegraph Office*.

Bateson, William.

Bauermeister, Mathilde.

Bausch, John Jacob. An American manufacturer of optical goods, died at Rochester, N. Y., Feb. 14. He was born at Susslen, Wurtemberg, Germany, July 25, 1830, going to the United States in 1849. In 1853 he started in the optical business at Rochester, N. Y., becoming president of the Bausch & Lomb Optical Co. He was at one time president of the Mechanics Savings Bank of Rochester, and was identified with many important civic movements.

Bax, Ernest Belfort.

Bazan y Bustos, Monsignor Juan Abel. Roman Catholic Bishop of Parana, Entre Rios, died at Buenos Aires, Argentina, Apr. 25. He was born in 1867, and in 1911 was made bishop.

Beach, David Nelson. American theologian and educator, died at Southington, Conn., Oct. 18. He was born at South Orange, N. J., Nov. 30, 1848, and graduated from Yale College in 1872 and from the Yale Divinity School in 1876, being ordained a Congregational minister in the same year and becoming pastor at Westerly, R. I. Subsequently he served in various pastorates until 1903, when he was made president and professor of homiletics at Bangor Theological Seminary. He retired from this chair in 1921 and devoted himself to independent preaching and writing. He was a worker for temperance and church unity. His writings include *Plain Words on Our Lord's Work*, 1886; *The Newer Religious Thinking*, 1893; *The Intent of Jesus*, 1896; *Statement of Belief*, 1897; *A Handbook of Homiletics*, 1917.

Bean, Theodora. American journalist, died at New York, Aug. 5. She was born in Anoka, Minn., and was educated at Carlton College, Northfield, Minn., leaving before graduation to work on the *Chicago Daily News*. She later went to Europe, obtaining important interviews. She was a member of the staff of the *Morning Telegraph*, New York, and did feature work for the *Evening Telegram*. She became Sunday editor of the *Morning Telegraph*, resigning in 1924 to found the T-Bean Syndicate. At the time of her death Miss

Bean was president of the New York Newspaper Women's Club, of which she was a charter member. Beatty, Frank Edmund.

Beers, Henry Augustin.

Behrman, Martin. Former mayor of New Orleans, La., died at New Orleans, La., Jan. 12. He was born in New York, Oct. 14, 1864, and received a public school education in New Orleans, where he was taken at an early age. He became interested in municipal activities, serving as a member of the school board, assessor, and clerk of the city council of New Orleans; he was elected Mayor of that city in 1904, and served four terms, until 1920. He was also president of the Louisiana State Board of Assessors, a member of the Louisiana Constitutional Convention in 1898 and 1921, and state auditor, 1904-05. He was a director of the American Bank & Trust Co., and in 1917-18 served as president of the League of American Municipalities.

Bell, Edward

Bell, George, Jr.

Bell, Gertrude Margaret Lowthian.

Berea, Don Alejandro. Spanish Consul General in New York, died in New Rochelle, N. Y., July 29. He was born in Coruña, Spain, in 1866, and spent his life in the Spanish consular service, serving as vice-consul at Liverpool and London, and consul at Hamburg, Mazagan (Morocco), Gibraltar, and New Orleans; he was appointed consul-general in New York in 1919.

Bermudez, Jorge.

Bertram, Sir Alexander. Canadian soldier, died at Montreal, P. Q., Apr. 24. He was born at Dundas, Ontario, Feb. 18, 1853. Serving in the Dominion militia in 1905, he was appointed to command the Third Infantry Brigade, the West Ontario Command, and in 1909 commanded the Bisley rifle team. He was made a colonel in the following year, and served as deputy chairman of the Canadian Imperial Munitions Board. He was knighted in 1916.

Bertrand, Francisco.

Bettus, Cyrus K.

Bierck, Albert Boykin.

Bigland, Percy.

Bird, George Emerson. American jurist and justice of the Supreme Court of Maine, died at Yarmouth, Me., Jan. 19. He was born at Portland, Me., Sept. 1, 1847, and graduated from Harvard College in 1869, receiving the degree of A.M. in 1872. In that year he was admitted to the bar, and practiced at Portland, Me., serving as United States District Attorney of Maine, 1885-90. He was a member of the Maine House of Representatives, 1893-95, and in 1908 was made associate justice of the Supreme Judicial Court of Maine, serving until 1915, and for a second term, 1915-22, but resigned Aug. 29, 1919. In Oct., 1923, he was appointed active retired justice of the Supreme Court of Maine. He was an overseer of Bowdoin College and a director of the Maine General Hospital.

Blake, Sir Herbert Acton, K.C.M.G. British Naval Officer, Deputy Master of Trinity House, died at sea on his way from South Africa, Mar. 7. He was born at Winchester, Eng., Oct. 19, 1857, and was educated privately. He became a mariner and was in command of vessels in the British India Steam Navigation Co. and the African Royal Mail Co. In 1901 he became an Elder Brother of Trinity House, the British organization in charge of lighthouses, and served on various important committees.

Bobbs, William Conrad.

Boggs, Frank Myers. American landscape and marine painter, died at Meudon, near Paris, France, Aug. 11. He was born in Springfield, Ohio, Dec. 6, 1855, and studied at the Ecole des Beaux Arts in Paris under Gérôme. He exhibited in the leading cities in France and Germany, and his "Rough Day at Honfleur" awarded a prize of \$2500 in a competition in New York City, was acquired by the Boston Museum of Fine Arts. His work is considered to belong to the French rather than to the American school. His "La Place de la Bastille" painted in 1882, was purchased for the Luxembourg Museum, and his "Isigny" was acquired by the Museum of Niort.

Booth, Herbert.

Bowers, the Rt. Rev. John Phillips Allcot. Anglican Bishop of Thetford, died at Norwich, Eng., Jan. 6. He was born at Portsmouth, Eng. May 15, 1854, and was educated at Magdalen School, Oxford, and St. John's College, Cambridge. After taking his degree, he was ordained deacon in 1877, and after serving as curate in Essex he became canon residentiary and canon missionary of the Diocese of Gloucester, 1885-1902. In 1902 he resigned his canonry to become Archdeacon of Gloucester. In 1903 he became rector of North Creaks and Suffragan Bishop of Thetford. He was also Provincial Grand Master of Norfolk in 1920, having been Past Grand Chaplain of England in 1898.

Boyle, Emmet Derby.

Boyleave, René.

Bradford, Edward Hickling. American surgeon, died at Boston, Mass., May 7, where he was born, June 9, 1848. He graduated from Harvard College, 1869, receiving the degree of M.D. from the Harvard medical school in 1878. He became clinical instructor of orthopedic surgery in 1881, serving in various capacities until 1903, when he was made professor of orthopedic surgery. He became dean in 1912, a position he occupied at the time of his death. He was surgeon of the Children's Hospital of Boston and the Boston City Hospital, and a member of many medical and other learned bodies. He wrote *Treatise on Orthopedic Surgery* (1895), and was a contributor to medical journals.

Brandt, Jacob.

Breed, Richard Edwards.

Briel, Joseph Carl.

Briggs, Edward Cornelius.

Brigham, William Tufts.

Bright, James Wilson.

Brindell, Robert P.

Brooke, John Rutter.

Broughton, Phyllis. British actress, died in London, July 21. Her first appearance was in the ballet at the Canterbury Music Hall in 1876. For five years she was connected with the Gaiety Theatre company, and later was at the Avenue Theatre. In 1897 she played Princess Vea at the Metropolo in *The Vagabond King*, and her last appearance on the stage was in Nov., 1914, at the Aldwych in *The Earl and the Girl*.

Brown, Arthur Henry. A British composer, died in Brentwood, Essex, in February. He was born there July 24, 1830. From 1852-7 he was organist at Romford, and from then on until his death he was organist of the Brentwood Parish Church. He composed several masses, and a great quantity of music for the Anglican service, but he is best known as the composer of more than 800 hymn tunes, some of which achieved immense popularity.

Brown, Charles Sumner. Mechanical engineer and professor of mechanical engineering at Vanderbilt University, Nashville, Tenn., died at Woodmont, Conn., Aug. 31. He was born at East Hampton, Conn., Aug. 23, 1860, and graduated from Yale in 1883. He practiced mechanical engineering until 1888, when he became professor of steam engineering in Rose Polytechnic Institute at Terre Haute, Ind. He served there until 1896, when he became professor of mechanical engineering in Vanderbilt University, a position he held at the time of his death. He received the degree of M.E. from Yale in 1888, and in 1918, was fuel administrative engineer and chief of conservation for Tennessee in the United States Fuel Administration. He was a member of the American Society of Mechanical Engineers and of the Engineering Association of the South, of which he was president in 1915, and of the Engineering Association of Nashville, of which he was president in 1919.

Brown, Henry Martin. American banker, died at Providence, R. I., June 9. He was born at Bolton Conn. Apr. 28, 1850, and, after receiving a high school education at Rockville, Conn., entered business at a clerk in a dry-goods store, later forming a partnership with his brother, ex-Governor D. Russell Brown, and Charles H. Child, as Brown Bros. & Co., to engage in the business of mill supplies. This concern was incorporated in 1893 as the Brown Bros. Co., of which he was secretary, 1893-99. In 1899 he organized the United States Bobbin & Shuttle Co., of which he was treasurer and general manager; he was also president of the National Ring Traveler Co. He was an officer in the various banking, public utility, insurance, and other companies in Rhode Island, and in 1890 was a member of the City Council of Providence. In 1892 he was colonel and chief of staff under Governor Brown, and in 1900-02 he was a member of the Rhode Island House of Representatives. He was a delegate to the Republican National Convention in 1904, and a presidential elector in 1908.

Brown, Sir John McLeavy.

Browning, John M.

Rusiloff, Alexi Alexeivitch.

Bullock, Lieutenant-General Sir George.

Burbank, Luther.

Burne-Jones, Sir Philip. British figure and portrait painter, died at London, June 21. He was the son of Sir Edward C. B. Burne-Jones, and was born Oct. 2, 1861. He was educated at Marlborough College and at University College, Oxford, studying art with his father. His works are of a highly imaginative character and include the "Vampire" after Kipling's poem (1897); "Earth Rise to the Moon"; and the "Madonna of the Future," after Henry James' story. In his later life he devoted himself to portraits; of which his finest are said to be those of his father before an easel (1898); "Sir G. F. Watts Modeling and Statute" (1900); "Rudyard Kipling in his Study" (1900); "Lord Rayleigh" and "Sir Walter Gilbey" (1910). He wrote *Dollars and Democracy* (1904).

Burrage, Henry Sweetser.

Burrell, David James.

Buttrick, Wallace.

Cambridge, Ada (Mrs. George Frederick Cross).

Campbell, James Mann. American clergyman, editor and author, died at Claremont, Calif., May 7. He was born in Scotland, May 5, 1840, and was educated in the schools of Dumbartonshire and at Glasgow and Edinburgh Universities. He was ordained to the Congregational ministry in 1868, and went to the United States in 1874. He held pastorates at Streator, Ill., Abingdon, Ill., Watertown, Wis., Morgan Park, Ill., and Lombard, Ill. He was a frequent contributor to religious periodicals and wrote a number of religious books.

Campbell, William Francis. American surgeon, died in New York, Sept. 7. He was born in Brooklyn, Nov. 7, 1867, and after graduating from New York University, 1887, studied at Long Island College Hospital, where he received the degree of M.D., 1892. He immediately engaged in practice in Brooklyn, becoming professor of surgery at the Long Island College Hospital in 1910, was connected with several other Brooklyn hospitals. He was surgeon, with the rank of major, in the 2nd brigade, N.G.N.Y., 1908-13, and in 1918, during the war, served with the American Red Cross in France. He was a fellow of the American College of Surgeons, a member of the American Medical Association, president of the Medical Society of the State of New York, in 1913, and also of the Medical Society of Kings County in 1906, in addition to being a member of many other medical and social organizations.

Cannon, Joseph Gurney.

Cantlie, Sir James.

Canton, William. British author and journalist, died at Hendon, Eng., May 2. He was born on the island of Chusan, off the coast of China, Oct. 27, 1845, and was educated in Jamaica, and at Douay, France, for the Catholic priesthood. He became a Protestant, and for many years was editor and leader-writer on the *Glasgow Herald*. In 1891 he became sub-editor of the *Contemporary Review*, and manager of Isbister & Co., Ltd., keeping this connection until 1901. His writings include: *The History of the British and Foreign Bible Society* (5 vols. 1903-10); *The Story of the Bible Society* (1904); *The Bible and the Anglo-Saxon People* (1914); *Dawn in Palestine* (1918); and *The Five Colours* (1924).

Carhart, Daniel.

Carlisle, Alexander Montgomery

Carmichael, Thomas David Gibson-Carmichael, Lord, first Baron of Skirling. First Governor of Bengal, died in London, Jan. 16. He was born at Edinburgh, Scotland, Mar. 18, 1859, the eldest son of the Rev. Sir Henry William Gibson-Carmichael, thirteenth baronet. After leaving St. John's College, Cambridge, he served as private secretary to Sir George Trevelyan and Lord Dalhousie, secretaries for Scotland in the Liberal administration of 1886. Contesting Midlothian on Mr. Gladstone's retirement from Parliament in 1895, he served as a Liberal in that body until 1900, when he retired. He was then chairman of the Scottish Liberal Association. In 1908 he was made Governor of Victoria, Australia, and in the same year was created a Knight Commander of St. Michael and St. George. In his short career as Governor of Victoria he won much popularity, and in 1911 he was nominated as Governor of Madras. In the following year, when Bengal was elevated to a province, Sir Thomas became its first Governor, and was raised to the peerage, with the title of Baron Carmichael of Skirling. He held the Governorship of Bengal until 1917; his work was recognized by the creation of the Carmichael Institute of Hygiene at the School of Tropical Medicine. In 1923 he was made trustee of the National Gallery.

Carter, Lincoln J. American manager and producer, died at Goshen, Ind., July 13. He was born at Rochester, N. Y., Apr. 14, 1865, the son of theatrical parents who made extensive tours in the United States. Beginning as a player of small parts, Carter became a playwright, being the author of such plays as *Sidonia*, *Remember the Maine*, *Her Only Sign* and *The Flaming Arrow*, productions. His first production of melodrama was in 1890, when he staged *The Fast Mail*, and subsequently, he put on *The Heart of Chicago*, which was played for 14 years in all parts of the United States. Carter was said to have produced 35 melodramas in as many years. He retired from playwrighting and producing when motion pictures seriously interfered with the production of drama by traveling companies. In addition to the plays already mentioned he was the author of *The Eleventh Hour*, *The Tornado*, *Lost in the Desert*, *Down Mobile*, *Bedford's Hope*, *Under the Dome*, *The Eye Witness*, and *Tempest and Sunshine*. These plays were known throughout the United States, and some in London. A number of the plays were adapted by film producers.

Cashin, Sir Michael Patrick.

Cassatt, Mary.

Cassidy, James H. Former representative in Congress, from Ohio, died at Forest Hills Gardens, N. Y., Aug. 23. He was born at Cleveland, Ohio, Oct. 28, 1869, and in 1902 became clerk of the committee on rivers and harbors of the U. S. House of Representatives, of which his friend, Theodore E. Burton, was chairman. After serving as clerk until January, 1909, he was elected to succeed Mr. Burton as representative from the 21st Ohio district, comprising a part of the City of Cleveland. In 1910 he was defeated for reelection. In the latter part of his life he made his home at or near New York.

Chandler, Francis Ward. American architect and professor, former head of the department of agriculture at the Massachusetts Institute of Technology, died at North Haven, Me., Sept. 8. He was born at Boston, Mass., Sept. 30, 1844, and after studying at Lancaster Academy and serving with the 53rd Mass. Volunteers during the Civil War, studied architecture, and in 1864 became associated with the firm of Ware & Van Brunt. From 1867-69 he studied in Paris, and on his return to Boston became associated with the department of architecture of the Massachusetts Institute of Technology, becoming its head in 1886, and serving in this capacity until 1911, when he retired as professor emeritus. He was a member of the firm of Cabot & Chandler, architects, Boston. At one time he was advisory architect for the City of Boston, and was a member of the Boston Art Commission, and of the American Institute of Architects. Professor Chandler, in cooperation with Edmund Wheelright, edited *Municipal Architecture* in 1898. He was the author of: *Construction Details* (1892), and *Notes on Limes, Cements, Mortars, and Concretes* (1892).

Channing of Wellingsborough, First Baron of: Francis Allston Channing, British reformer and author, died at Eastbourne, Eng., Feb. 20. Born in the U. S., Mar. 21, 1841, a son of the Rev. William Henry Channing, American Unitarian clergyman and author, he was educated at Exeter College, Oxford. From 1885-1910 he served as a Labor member of Parliament for East Northamptonshire. From 1893-96 he was a member of the royal commission on agricultural depression, and in 1894 he was chairman of the Central and Associated Chambers of Agriculture. He was a barrister of Lincoln's Inn, and a justice of the peace for Northamptonshire. His writings include *Instinct, The Greek Orators as Historical Authorities; the Second Ballot, The Truth about Agricultural Depression, Memories of Midland Politics* (1917), etc.

Chapin, Charles Frederic.

Chaplin, Maxwell. American missionary to China, died from cholera at Tsing-tao, China, July 20. He was born in 1880, and was educated at the Hill School, and at Princeton, graduating from the latter in 1913. He studied for the ministry at Hartford Theological Seminary and Union Theological Seminary, going to China in 1919 as a missionary of the Presbyterian Board of Foreign Missions. He was stationed in the Province of Anhwei, and at the time of his death was at Tsing-tao on his vacation.

Chapman, Sir Austin, K.C.M.G. Australian statesman, died Jan. 12. He was born at Bowral, N. S. W., July 10, 1864, and was educated at Marulan. He represented Bradwood in the New South Wales Parliament as a member of the Legislative Assembly, 1891-1901. In the latter year he became a member for Eden Monaro in the House of Representatives. He was a member of the New South Wales Commission for the Chicago Exposition, 1893. He was justice of the peace for New South Wales in 1894. He attended the coronation of King Edward VII in 1902. In 1903-04 he was Minister for Defense, and in 1905-06 chairman of the federal royal commission on old age pensions. In 1905-07 he was Postmaster-General of Australia, and represented Australia, New Zealand, and Fiji at the Postal Union Convention held in Rome in 1906, where he advocated universal penny postage. In the same year he proposed penny postage to the Australian Parliament, and introduced the penny and toll telephone system in Australia, and a bush telephone scheme. He also established uniform telegraph rates and postal orders throughout the Commonwealth. In 1907-08 he was Minister of Trade and Customs, and again in 1923 and 1924, in which years he served as Minister for Health. In 1924 he was created Knight Commander of St. Michael and St. George.

Chapman, William Young.

Chauvin, Mlle. Jeanne. Said to be the first woman lawyer in France, died in Provins, Sept. 28. She was born in 1866, and having tutored her brother for the degree of doctor of laws, took the examinations which she passed with honor, and applied for admission to the bar. Upon being refused, she took the question to the Chamber of Deputies. With the advocacy of René Viviani, a bill was passed and she was duly admitted

to the bar as the first woman in France in that calling.

Chien, Chang. Chinese manufacturer and industrialist, died at Nantungchow, near Shanghai, Aug. 25. He was born in 1852, and first made a reputation by transforming a wretched native village into the so-called Chinese "model city" of Nantungchow. He was at one time Minister of Agriculture and Commerce, procuring the promulgation of progressive forestry laws, which were strengthened in 1916 on the organization of the Chinese forest service. He organized the National Conservancy and Irrigation Bureau, and in 1920 organized the Kiang-su Grand Canal Board at Yangchow, of which body he became president.

Chiston, First Viscount, Aretas Akers-Douglas. British political leader, died in London, Jan. 1. He was born in Kent, Oct. 21, 1851, and was educated at Eton, and University College, Oxford. In 1875 he became a barrister. He studied in the Inner Temple at the general election of 1880 and became a barrister in 1875; he was returned as conservative member for East Kent. In 1885, when this constituency was divided, he sat for the St. Augustine division, and represented it until he was raised to the peerage in 1911, when he was created first Viscount Chilton of Boughton Malherbe. He was active in Parliament. In 1895 he became First Commissioner of Works, with a seat in the Cabinet, and remained as such until 1902, when he became Home Secretary of State in the Balfour government. At the end of 1905 he was created Knight of the Grand Cross of the Order of the British Empire.

Cieplak, John.

Clark, Charles Hopkins

Clark, Michael. Canadian physician and pioneer, died near Olds, Alberta, July 29. He was born in Northumberland England, 1862, and was educated at York and Edinburgh Universities. He moved to Canada, and in 1902 took up farming and ranching in Alberta. He was elected to the House of Commons for Red Deer in 1908, as a Liberal, and reelected in 1911.

Class, Franklin Morris. An American composer, died in New York, Feb. 15. He was born there, May 2, 1881. After completing his musical studies under Paine and Spalding at Harvard, he studied medicine at Columbia, and from 1907 practiced in New York. He wrote numerous pieces for piano, some choruses, motets and chamber music.

Coffin, Charles Albert.

Colver, William Byron.

Concanon, Henry. British shipping head, died Sept. 18. He was born in 1861, and was from his start in business life associated with shipping interests. During the World War he joined the Territorial forces, and at one time commanded the 7th Battalion of the King's Liverpool Regiment. He received the Territorial Decoration, the Coronation (King Edward VII) Medal, the Italian Medal of Merit, and the Messina Medal. He was a justice of the peace, and a director of the Oceanic Steam Navigation Co., Ltd., of the International Navigation Co., and of George Thompson & Co., Ltd. At the time of his death he was joint manager of the Oceanic Steam Navigation Co., (The White Star Line), and the International Navigation Co. In 1920-21 he was chairman of the Steamship Owners' Association.

Cook, Charles Cyrus. American clergyman and evangelist, died at Upper Montclair, N. J., Sept. 5. He was born in Baltimore, Md., in 1861, and for many years was a publisher of scriptural literature, with offices in New York City. He was for 12 years pastor of the South Brooklyn Gospel Church, and wrote several books and pamphlets on biblical literature.

Coolidge, William Augustus Brevoort.

Cornell, Rev. H. John. American clergyman, died at Portsmouth, R. I., Sept. 23. He was born in New York, N. Y., June 11, 1839, and studying at Princeton and Princeton Theological Seminary, was ordained a deacon in the Protestant Episcopal Church in 1863. After holding various charges, 1876-94, he became pastor of the American Church at Nice, France. In 1895 he retired and lived at Portsmouth, R. I., until his death.

Corrucini, Roberto.

Corry, Sir William. British shipping authority, died at London, England, June 9. He was born Mar. 20, 1859, and was educated at Eton, and Trinity College, Cambridge. For many years he was a director of the Cunard Line and of the Commonwealth and Dominion Line, and was considered one of the leading shipping authorities in England.

Coué, Philip Émile.

Craig, John Millar. A British baritone, and choral conductor, died at Glasgow, in March. He was born in Edinburgh, Nov. 15, 1839. From 1883-1904 he was conductor of the famous Glasgow Select Choir, with which he made extensive tours of the United Kingdom and gave an annual concert in London on St. Andrew's Day. For some years he also conducted the concerts of the Edinburgh Bach Society.

Cranston, Alexander B.O. American evangelist, died at North Bergen, N. J., Aug. 5. Born at Athlone, County Westmeath, Ireland, in 1829, he went to the U. S. in the early sixties, serving in the Civil War, and entering the employ of A. T. Stewart, the dry goods merchant. He preached continuously during the time of that employ, and in recent years was termed the world's oldest evangelist, holding his last evangelistic meeting but a month prior to his death.

Craven, Alfred.

Crews, Ralph.

Crossley, the Rt. Rev. Owen Thomas Lloyd. Anglican Bishop of Auckland, New Zealand, 1911-13, was killed by a motor car in London, Mar. 3. He was born Apr. 30, 1860, and was educated at Trinity College, Dublin, from which he received the degree of M.A. He was ordained in 1884. He lectured at St. Aidan's, Birkenhead, 1900, and at Lichfield Theological College 1903-04. He later was fellow of the Australian College of Theology, lecturer at St. John's College, Melbourne; and select preacher at the University of Dublin. He went out to Australia in 1905 to become archdeacon of Geelong, where he served until 1911, being also incumbent of All Saints, St. Kilda. In 1911 he was consecrated as Bishop of Auckland, N. Z., serving as chaplain to the Archbishop of Melbourne. In 1913 he returned to England, and he became rector of St. Andrew's Major, Dinas Powis, Cardiff. In 1914-20 he was assistant to the Bishop of Llandaff.

Cummins, Albert Baird.

Cunliffe-Owen, Philip Frederick.

Cunningham, Andrew Oswald. American civil engineer, died at University City, Mo., May 11. He was born at Rangoon, British Burmah, July 8, 1866, the son of General Percy S. Cunningham of the British Army, and was educated at South Eastern College, England, leaving at the conclusion of his course in 1883 to go to the United States. He graduated from the University of Minnesota as B.C.E. in 1894. He entered the service of the Wabash R. R. in 1902 as bridge engineer, and in 1905 became its chief engineer, serving in this capacity until 1923, when he resigned to take up private practice as a consulting engineer in river-improvement work. He was elected mayor of University City, Mo. in 1924.

Curtis, Mrs. Henry. The former Lady Stanley, widow of the famous explorer and an accomplished artist, died in London, Oct. 5. Dorothy Tennant, sister of Lady Asquith, a woman of intellectual and artistic gifts, as early as 1886 exhibited her paintings at the Royal Academy and in 1890 married the famous explorer, Sir Henry M. Stanley, in Westminster Abbey. In 1893 she exhibited an admirable portrait of the explorer, and accompanied him on his lecture tour in the United States and Canada. Stanley died in 1904, and in 1907 his widow married a distinguished physician, Sir Henry Curtis, F.R.C.S. She edited the *Autobiography of Sir Henry M. Stanley* (1909). In 1890 she had brought out a book of her own, *London Street Arabs*.

Cushny, Arthur Robertson.

Darling, Charles K. American soldier and lawyer, died at Waverly, Mass., Dec. 29. He was born at Corinth, Vt., in 1864, and studied at Dartmouth, receiving his A.B. degree in 1885. For two years he was a cadet at West Point. He graduated from Boston University Law School, and was admitted to the bar in 1885. In 1898 he became instructor in criminal law in Boston University. He served in Porto Rico in the Spanish American War as a major in the 6th Regiment, Mass. Volunteers; on the return of the regiment he was made colonel and received his discharge from the Federal service. On his retirement from the militia he received the retirement rank of brigadier general.

Davis, Sir Sarracomb.

Davis, Charles Belmont.

Davis, George Schley. American radio worker died at Boston, Mass., Oct. 10. He was born in Nebraska in 1884, and, serving in the U. S. Navy, studied radio communication as it was developed in that service. In 1909 he became connected with the United Fruit Co. radio service, rising rapidly from operator to superintendent of the radio department, general manager, and vice-president. He was vice-president and a director of the Tropical Telegraph Co., president of the Wireless Specialty Apparatus Co., and a director of the Radio Corporation of America. He was a member of many technical organizations, a fellow of the Institute of Radio Engineers, of the American Geographical Society, and of the Royal Society of Arts.

Davis, the Right Rev. James J.

Davis, John D. American theologian and member of the faculty of Princeton Theological Seminary, died June 21. He was born at Pittsburgh, Pa., Mar. 5, 1854, and, graduating from Princeton in 1879, took post-graduate studies at the University of Bonn. He was graduated from Princeton Theological Seminary

in 1883, and he was appointed professor of Hebrew and cognate languages at Princeton in 1888. In 1892 he succeeded to the chair of Semitic philology and Old Testament history, which he held until 1900, when he became professor of Oriental and Old Testament history, being at the time of his death the senior member of the faculty of Princeton Theological Seminary. He was the author of *Genesis and Semitic Tradition* (1894); *A Dictionary of the Bible* (1898), (fourth edition) (1924); and critical notes in the *Westminster Teacher* from July, 1899, to December, 1907.

Davis, William Blackford. American soldier and physician, died at Baltimore, Md., Nov. 30. He was born Aug. 5, 1848, at Charlottesville, Va., and graduated from the University of Virginia in 1870. He entered the Army as an assistant surgeon in 1877. Retiring in 1912, Colonel Blackford went to live at Baltimore, but he rejoined the Army in the World War. He was in command of the hospital at the Soldiers' Home, Washington, D. C.

Debs, Eugene Victor.

Decourcelle, Pierre.

Del Mar, Alexander.

Demarest, William Thomas. Secretary of the Board of Domestic Missions of the Reformed Church in America, died at Greenwich, Conn., Aug. 20. He was born in New York City, Aug. 17, 1866, and studied at the College of the City of New York. He was engaged in commercial employment and syndicate newspaper work until he became, in 1909, secretary of the Board of Domestic Missions of the Reformed Church in America. He was a member of the board of managers of the Theological Seminary at New Brunswick, N. J.

Dent, Joseph Mallaby. British publisher, died at London, May 11. He was born at Darlington, England, in 1849 and, at the age of seventeen, was apprenticed to bookbinding and printing. In 1872 he began business as a bookbinder, and in 1888 started as a publisher on his own account. He produced the *Temple Shakespeare*, *Temple Classics*, *Everyman's Library*, the *Collection Galia*, the *King's Treasuries*, and other works, which were widely circulated. He was also interested in archaeology, being a member of the British Archaeological Society.

Doble, Budd. American horseman, died at Puente, Calif., Mar. 29. He was born in Philadelphia in 1841, and, becoming interested in trotting racing in 1860, drove Dexter one mile in 2:17 1/4. In 1865 Doble drove the famous trotting mare, Goldsmith Maid, owned by Henry N. Smith, on the various trotting circuits throughout the United States, in 12 years winning stakes estimated at \$365,000. In 1892 he drove Nancy Hanks to three world trotting records, 2:07 1/4, 2:05 1/4, and 2:04, the last record being made at Terre Haute, Ind., Sep. 25, 1892. He retired from the track in 1906.

Dodge, Cleveland Hoadley.

Dole, Sanford Ballard.

Dominguez, Lorenzo.

Dorman, Franklin Abbott. American physician and head of the obstetrical division of the Sloane Hospital for Women, New York City, died in New York, Aug. 6. He was born in Upper Montclair, N. J., in 1874, and was educated at the Montclair High School and Harvard University, from which he graduated in 1894. In 1898 he graduated from the College of Physicians and Surgeons in New York City, and after serving at the Post-Graduate Hospital as an interne became connected with the Sloane Hospital for Women as resident physician, later devoting himself to outside practice as an obstetrician, though retaining his position as head of the division. Dr. Dorman was a deacon of the Broadway Tabernacle and a trustee of the American University, Beirut, Syria.

Doughty, Charles Montague. British explorer of Arabia, and author, died Jan. 21. He was born in 1843, and was educated at the Naval School, Portsmouth, England, and at Caius College, Cambridge. He received his M.A. degree and was made an honorary fellow of Gonville and Caius College, Cambridge, being honored later with the degree of D.Litt. from Oxford and Litt.D. from Cambridge. He was an honorary member of the British Academy, and in 1912 he received the Royal Founder's Medal from the Royal Geographical Society. His publications include *Travels in Arabia Deserta*, 2 vols., published in 1888, and republished in popular editions several times; *The Dawn in Britain*, 6 vols., 1906; *Adam Cast Forth*, 1908; *The Chiffs*, 1909; *The Clouds*, 1912; and *Mansoul, or the Riddle of the World*, 1920.

Douglas, George William. American clergyman, died at Tuxedo Park, N. Y., Oct. 20. He was born in New York, N. Y., in 1850, and went to school at Concord, N. H. He graduated in 1871 from Trinity College and, received his Master of Arts degree in 1874. He studied at the General Theological Seminary in New York, and on completion of his course there he was admitted as a deacon in the diocese of New

York. For two years he studied at the University of Bonn, Germany, and at Oxford, Eng. In 1878 he was made a priest of the Protestant Episcopal Church. He was vicar of Trinity Church, New York, from 1879 to 1886, after which he was transferred to Washington. He returned to New York in 1898 as preacher at Grace Church, and instructor at the training school for deaconesses, a position which he held until 1904. In this year he was appointed canon at the Cathedral of St. John the Divine. His best known books are *Christ's Challenge in the World's Crisis*; *Spiritual Healing and the Holy Communion*; and *Essays in Appreciation*.

Douglas, Henry Thompson. American soldier and civil engineer, died at Providence Forge, Va., July 20. He was born in 1836, and served through the Civil War, being one of the engineers who built the defenses of Richmond. At the time of his death he was said to be the last surviving general of the Confederate forces, and was one who had known General Lee and the other leaders of the Southern army. In the Spanish-American War he served as a commissioned officer in the United States Army, and at the time of the World War offered his services to the United States. He was one of the engineers engaged in the construction of the New York subway system, and was also connected with other important engineering projects.

Dowling, Thomas Barrow. British organist and conductor, died at Cape Town, South Africa, in August. He was born in Hampshire, May 31, 1861. In 1888 he became organist at St. George's Cathedral in Cape Town, where he was an important factor for the advancement of musical culture, founding choral societies and organizing festivals on a grand scale. From 1894-1912 he also was conductor of the Cape Town Musical Society's Orchestra.

Downey, George Eddy. American jurist, died in Washington, D. C., May 24. He was born in Rising Sun, Ind., July 11, 1860, and was graduated from Ashbury (now DePauw) University, Greencastle, Ind. in 1880. He began the practice of law in that town at the age of 21 and for two years, from 1882-84, was editor of the *Franklin Democrat*, Brookville, Ind., returning to the practice of law and removing to Aurora, Ind., in 1886. He served as mayor of Aurora from 1894-1902 and was judge of the 7th Judicial Circuit of Indiana from 1903-13, when he resigned to become Comptroller of the Treasury by appointment of President Wilson. He was appointed judge of the United States Court of Claims Aug. 3, 1915, and was serving in that capacity at the time of his death.

Dreyer, John Louis Emil. British astronomer, died at Oxford, Eng., Sept. 14. He was born in Copenhagen, Denmark, Feb. 13, 1852, and was educated at Copenhagen University. In 1874 he became astronomer at the Earl of Rosse's observatory, a position he held until 1878, working with the 6-foot reflector in examinations of the nebulae. From 1878 to 1882 he was assistant astronomer at the Dublin University Observatory. In 1882 he became director of the Armagh Observatory, serving in this position until 1916, when, upon retiring, he went to Oxford to carry on further researches. He had the honorary degree of M.A. from Oxford and that of D.Sc. from Belfast, as well as the gold medal of the Royal Astronomical Society in 1916, he served as the president of the society from 1923-25. He was author of many important works on astronomy, and in his later life on the history of Astronomy, including *Second Armagh Catalogue of 3300 Stars* (1886); *New General Catalogue of Nebulae and Clusters of Stars* (1888; supplements 1895 and 1908); a monumental work entitled *Tycho Brahe: A Picture of Scientific Life and Work in the Sixteenth Century* (1890); *Planetary Systems from Thales to Kepler* (1906); and *Cosmicus: An International Journal of Astronomy* (1881-84) (jointly with Prof. Copeland).

Drury, the Right Reverend Thomas Wortley.

Duane, Alexander.

Dula, Robert B.

Dunn, Arthur Wallace.

Dunn, Sir William (Henry). Lord Mayor of London, 1916-17, died at Bournemouth, Eng., June 12. He was born at Clitheroe, Eng., in 1856 and was educated privately. He held many local offices in London, being magistrate for the County of London, alderman of the City of London, 1909-23, sheriff, 1906-7, Lieutenant of the City of London, and Lord Mayor, 1916-17. He was a Unionist M. P. for West Southwark, 1910. He was chairman of the Royal Botanic Society; trustee and treasurer of Lord Mayor Treloar Cripples' Hospital and College; liverman of the shipwrights' and other city companies, being on the court of several. He was the recipient of war-time honors and decorations from the leading governments of Europe.

Dunraven, Earl of. Windham Thomas Wyndham-Quin.

Du Pont, Henry Algernon.

Durnford, Sir Walter. Provost of King's College, Cambridge, and a fellow of Eton College, died at Cambridge, Eng., Apr. 7. He was born at Manchester, Feb. 21, 1847, and was educated at Eton, and at King's College, Cambridge, where he graduated with honors in 1869. He was elected a fellow of King's College, and in 1870 he returned to Eton as a master. In 1899, retiring from Eton, he entered residence as a fellow of King's College, being elected vice-provost in 1909 and provost in 1918.

Dzerzhinsky, Felix E.

Eberlein, Gustav.

Edge, Sir John. British barrister, died July 30. He was born July 28, 1841, in Ireland, and was educated at Trinity College, Dublin, becoming an Irish barrister in 1864. In 1866 he became an English barrister of the Middle Temple. From 1866 to 1898 he was chief justice of the high court of judicature in the North Western Provinces of India. In 1898 he was appointed a member of the council of India, retaining his seat till 1908. He was elected a bencher of the Middle Temple in 1898, and in 1908 became a privy counselor. In 1909 he was made a member of the judicial committee of the Privy Council.

Edgeworth, Francis Ysidro.

Edwards, John Lewis. American banker and president of the Washington Stock Exchange, died at Washington, D. C., Aug. 6. He was born at Washington, in 1879. In 1912 he organized the firm of John L. Edwards & Co., a New York Stock Exchange house. He was also a member of the Washington Board of Trade and the Rotary Club, and a director of the Riggs National Bank, the Norfolk and Washington Steamboat Co., and the Fireman's Insurance Company.

Elliott, Charles William

Elliott, Charles Gleason. American civil engineer, died at Washington, D. C., Sept. 14. He was born in La Salle County, Ill., June 8, 1850, and, graduating from the University of Illinois in 1877, devoted himself to civil engineering. In 1901-02 he was editor of the *Drainage Journal*, and in the latter year became connected with the United States Department of Agriculture as chief of drainage inspections. After retirement from the Department of Agriculture he took up private practice, as a member of the Elliott & Harman Eng. Co. of Peoria, Ill., and Washington, D. C. He received the degree of C.E. from the University of Illinois in 1893. He wrote a number of articles on drainage and irrigation as well as *Practical Farm Drainage* (1882 and 1908); *Engineering for Land Drainage* (1903, 1911, revised, 1919); *Drainage of Farm Lands* (Bulletin 187, Department of Agriculture) (1904).

Ember, Aaron. Egyptologist, died at Baltimore, June 1 as a result of burns incurred in an attempt to rescue manuscript of research records from a fire which destroyed his home. He was born at Tulas, Lithuania, Dec. 25, 1878, and, going to the United States in 1891, graduated from Johns Hopkins University in 1901, taking the degree of Ph.D. three years later. In 1907 he became connected with the university, and in 1924 was made professor of Egyptology. He was known for linguistic and other studies, demonstrating a theory of the close kinship between Old Egyptian and the Semitic languages. At the time of his death, Dr. Ember had prepared the manuscript of a work, to be published in four volumes, which sought to develop fully his theory. He was a member of the American Oriental Society, the Linguistic Society of America, the Johns Hopkins University Philological Association, and of the Deutsche Morgenländische Gesellschaft.

Emerson, Victor Hugo. American manufacturer, died at Downey, Calif., June 22. He was born in Forest, Ohio, in 1866, and with his parents moved to San Francisco. He organized and became president of the United States Phonograph Co. He was recording supervisor for the Columbia Phonograph Co. until 1915, when he organized the Emerson Phonograph Co. Resigning from the presidency of the company in 1922, he organized the Kodisk Mfg. Co. for the production of metal records, but retired from active business on account of ill health.

Emery, Albert Hamilton.

Emmott, Lord.

Endicott, Rear Admiral Mordecai Thomas.

Englis, Charles Mortimer. Shipbuilder, died Jan. 15. He was born at Long Island City, N. Y., Dec. 14, 1857, and studied at the Mount Washington Institute, and at New York University. Learning the shipbuilding business at his father's shipyard in Brooklyn, he became a member of John Englis & Sons in 1882, and was sole proprietor of the business from 1892. He was active in shipping circles, being president of the New York and Hudson Steamboat Co., a director of the

Union Ferry Co. of New York and Brooklyn, and the Iron Steamboat Co. of New Jersey.

Epstein, Julius. An Austrian pianist, died in Vienna, in March. He was born at Agram, Aug. 14, 1832. From 1861 to 1901 he was professor at the Vienna Conservatory, and enjoyed the reputation of being one of the foremost teachers in all Europe. Among his pupils were Gustave Mahler, Marcella Sembrich, Ignaz Brüll and his own son Richard, who died in New York in 1919. He was one of the editors of Breitkopf and Härtel's monumental edition of the works of Schubert.

Estill, Thomas.

Eucken, Rudolf Christoph.

Eulenburg, Ernst.

Evans, Brig. Gen. Robert Kennon. An American soldier died at Camaldoli, Italy, Aug. 3. He was born at Jackson, Miss., Nov. 19, 1852, and, graduating from the United States Military Academy in 1875, was commissioned second lieutenant in the 12th Infantry. He served in the Nez Percé and Bannock Indian campaigns, 1877-78, and was military attaché at the American Embassy in Berlin, 1892-96. He was in Cuba during the Spanish-American War, and later in the Philippines. In 1911-12 he was chief of the division of military affairs, and assistant to the chief of staff, U.S.A. He was commanding general of the Department of the Gulf at Atlanta, Ga., 1912-14, and commander of the 2nd Brigade of the 1st division, Jan., 1913. He was commander of the Department of the East, 1914-15, and of the 2nd Brigade at Laredo, Tex., 1915-16. He retired as brigadier-general, Nov. 19, 1916. At the outbreak of the World War he was ordered to active duty and placed in command of the Philippine Department, with headquarters at Manila.

Exner, Franz.

Fabrician, Brother. Roman Catholic educator, and member of the Brothers of the Christian Schools, died at New York City, Sept. 26. Felix Pelerin, who after joining the Brothers adopted the name of Brother Fabrician, was engaged in educational work throughout the United States, having been associated in New York City with the De La Salle Institute and Manhattan College. He also directed the La Salle Academy in Providence, R. I., and was president of St. John's College, Washington, and of St. Mary's College, Oakland, Calif. At the time of his death he was librarian of Manhattan College, New York City, where at one time he had taught philosophy.

Farris, Frank H. Democratic leader in Missouri, died at Rolla, Mo., Sept. 1. He was born in 1868, and in his early life was a page in the Missouri Senate. He was a member of the Missouri Senate in 1899, and in 1903, at the time of the passage of the notorious "alum" bill with its scandal involving bribery of legislators. He was exonerated, and returned to the Senate from a county which was largely Republican. He was at one time Democratic floor leader in the Senate, and chairman of the State Democratic Committee. In 1924 he was one of the convention managers for W. G. McAdoo, a Democratic candidate.

Farrow, Edward Samuel.

Fehrenbach, Constantine.

Fenner, Hurt Leslie.

Ferguson, Frank William.

Ferguson, Robert Gracey. American educator and clergyman, died at Pittsburgh, Pa., Nov. 8. He was born Feb. 16, 1842, at Dry Run, Pa., and after receiving the degree of A.B. in 1862 from Washington and Jefferson College, entered the Union Army. From 1863-64 he was second lieutenant in the 21st Pennsylvania Cavalry. He was graduated from the United Presbyterian Theological Seminary in 1866, and was ordained to the United Presbyterian ministry, becoming pastor at Mercersburg, Pa., Cove, Pa., and Butler, Pa., 1874-1884. In 1884 he became president, in 1907 professor of Biblical literature, and in 1915 professor emeritus, of Westminster College, Pa. Since 1889 he had been director of Allegheny Theological Seminary, and since 1898 moderator of the United Presbyterian Assembly. He received the degree of D.D. in 1885 and LL.D. in 1902 from Washington and Jefferson, and LL.D. from Monmouth in 1906.

Fernald, Bert Manfred.

Filippini, Tina. An Italian pianist, died at Resina, Sept. 15. Born in 1902, she gave early evidence of unusual talent, so that her teacher, Marciano, brought her out at one of the famous Augusteo concerts in Rome when she was only ten years old. However, she continued to study for several years more, and then established an enviable reputation through her tours of Italy. She made her American debut at New York Feb. 2, 1925.

Finck, Henry Theophilus.

Fish, William Hansell. American judge, died at Macon, Ga., Dec. 8. He was born at Macon, May 12, 1849, and in 1869 graduated with the degree of A.B. from the University of Georgia. From 1869-71 he was a law student at the University of Virginia. In

1891-96 he practiced law in Georgia, becoming circuit judge; and from 1897-1905 he was associate justice, and from 1905-23 chief justice, of the Supreme Court of Georgia. The University of Georgia in 1920 conferred on him the degree of LL.D., and in 1923 he became dean of the Mercer University Law School, at Macon, a position which he held until his death.

Fitzgerald, Desmond.

Flaherty, Lawrence J. Member of Congress from California, died at New York City, June 18. He was born in San Mateo, Calif., July 4, 1878. He was active in California Republican politics, serving on the Board of Police Commissioners of San Francisco, and was for eight years a member of the California House of Representatives. He was president of the San Francisco Building Trades, and surveyor of customs in San Francisco, 1923-25. In 1925 he was elected to the 69th Congress from the fifth California District, which included a portion of San Francisco.

Fleury, Louis. Eminent French flutist, died in Paris, June 10. As a leader of the Société Moderne des Instruments à Vent, which he founded in 1875, he exerted a powerful influence in developing the technical resources of his instrument. He made extended tours of Europe, and in 1925 took part in the first Coolidge Chamber Music Festival at Washington.

Forrest, Sir George William.

Forsander, Nils. Theologian, died Aug. 20. He was born at Gladax, Sweden, Sept. 11, 1846, and, going to America, graduated from Augustana College and Theological Seminary, Paxton, Ill., in 1872. He became a clergyman in the Evangelical Lutheran Church, and in 1889 was made professor of theology in Augustana Seminary. In 1907 he was decorated by King Oscar II of Sweden as a Knight of the Royal Order of the North Star. He was the author of *Augustiniska Bekännelsen* (1899 and 1902); *Life Pictures from Swedish Church History* (1913); *Olavus Petri* (1918); *The Marburg Colloquy* (1919); *Lifsbilder ur Augustana Synodens Historia*, Vol. I, (1915), Vol. II, (1925).

Forsyth, David Dryden. American clergyman, died Nov. 8. He was born in Dane County, Wis., Mar. 5, 1864, and in 1889 received the degree of bachelor of arts from the University of Nebraska. He was ordained to the Methodist Episcopal ministry in 1894, and held various pastorates. In 1905 he received the degree of doctor of divinity from Denver University. He served as superintendent of the churches of the Denver district, 1909-1915, secretary of the board of education of the Methodist Episcopal Church, 1915-16, and corresponding secretary of the Board of Home Missions and Church Extension, from May, 1916, until his death.

Foster, Ben (Jamin)

Fothergill, William Edward. English gynecologist and surgeon, died Nov. 4, at Manchester, Eng. He was born in 1805, and was educated at Edinburgh, Paris, and Jena. Since 1895 Dr. Fothergill had been in consulting practice in Manchester; and had many hospital connections. He was Director of the clinical laboratory of the Royal Infirmary, Manchester; and at the time of his death was honorary consulting gynecological surgeon of the Royal Infirmary. He had also been professor of clinical obstetrics and gynecology at the University of Manchester. Among his books were *Manual of Midwifery*, (5th ed. 1922); *Golden Rules of Obstetrics*, 1898 (6th ed.); *Handbook for Midwives*, (5th ed. 1925); *Manual of Diseases of Women*, (2nd ed. 1922); and numerous articles in medical journals and encyclopedias.

Fowler, George Little.

Francis, Lee Masten. American ophthalmologist, died at Buffalo, N. Y., Apr. 22. He was born at Sabinsville, Pa., Oct. 8, 1877, and after graduating from the Norwalk, Conn., Military Institute in 1894 attended Cornell University, Ph.B., 1898, and Rush Medical College of the University of Chicago, M.D., 1901. He carried on post-graduate work at the University of Vienna, and in 1904 began practice at Buffalo, N. Y. Dr. Francis was a member of the American Board for Ophthalmic Examinations, and head of ophthalmic service at Base Hospital 115 during the World War. He was a fellow of the American College of Surgeons, a member of the American Medical Association, and of the American Academy of Ophthalmology and Otolaryngology, serving as secretary, 1911-18 and president, 1919-20.

Fraser, Lovat. British journalist, died in Slough, England, Apr. 20. He was born Nov. 18, 1871, and with few educational advantages had a journalistic career with various provincial papers until 1896, when he was made assistant editor of the *Times of India*, of which paper he became editor in 1898. In 1907 he became connected with the editorial staff of *The Times* of London, serving until 1922. At the time of his death he was chief literary adviser for, and contributor to, the *Sunday Pictorial* and *Daily Mirror*. In addition to special contributions covering his travels, he was



the author of several books, including *At Delit* (1908); *India under Ourton and After* (1912).

Freeman, Franklin. American jurist and justice of the Massachusetts Superior Court, died at Leominster, Mass., Apr. 7. He was born in Mendon, Mass., in 1871, attended Phillips-Exeter Academy and the Boston University Law School, graduating from the latter in 1896. He practiced law in Boston, and was appointed justice of the Leominster Court, serving in that capacity until he was appointed to the Superior Court bench, Sept. 2, 1925. Previous to this appointment, he was the first district court judge designated to preside at criminal sessions of the Superior Court.

Friederika, Princess of Hanover, of Great Britain and Ireland, and Duchess of Brunswick and Lüneburg, died Oct. 16, at Biarritz, France. She was born in Hanover, Germany, on Jan. 9, 1848, the daughter of George V, the last king of Hanover and Duke of Cumberland, who relinquished his claims to Hanover for 16,000,000 thalers in 1868 and died in 1878. He was a first cousin of Queen Victoria. On Apr. 24, 1880, she married Baron von Pawel-Rammingen, a former aide-de-camp of her father, at Windsor Castle—largely, it was said, through the intervention of Queen Victoria.

Frothingham, Paul Revere.

Fullam, William Freeland.

Fuller, Charles E. Former United States congressman, died at Rochester, N. Y., June 25. He was born in Boone County, Ill., Mar. 31, 1849, and was educated at Wheaton College. He was admitted to the bar in 1870 and from that time continued the practice of law at Belvidere, Ill., where he made his home. He served both as city and state's attorney, and was a member of the state House of Representatives and Senate, 1879-93. In 1897-1903 he was judge of the Circuit Court in the 17th Judicial District, and in 1903 became a member of the 58th United States Congress serving through successive Congresses until 1913. In 1915 he became a member of the 64th Congress, and was reelected continuously being a member of the 69th Congress at the time of his death.

Fuqua, Henry L.

Gaines, John Wesley. A former representative in Congress from the 6th Tennessee district, died at Nashville, Tenn., July 4. Born in Tennessee in 1861, in his early years he worked on a farm, but later went to the University of Nashville and Vanderbilt University, taking degrees in medicine and law. He practiced law in Nashville. His first political office was as presidential elector on the Democratic ticket in 1892, and in 1897 he was elected to Congress, where he served nearly 12 years. He was one of the attorneys who assisted William Jennings Bryan in preparing the prosecution of the Scopes case, conducted in Dayton, Tenn., in 1925.

Gédalge, André. A French composer, died at Langy-sur-Marne, in February. He was born in Paris, Dec. 27, 1856, and studied under Guiraud at the Conservatoire. Later he was professor of counterpoint there. He wrote an opera, *Hélène*, three symphonies, several orchestral suites, music for a number of pantomimes, and chamber music.

Gibbon, Perceval. British author, died on the Isle of Guernsey, May 20. He was born at Trelech, Wales, Nov. 1, 1879, and was educated at the Moravian School at Konigsfeld, Baden. His early life was spent in the merchant marine, and later, becoming journalist and war correspondent, he traveled extensively in Africa, America, and Europe. In 1918 he was a major in the Royal Marines. He wrote a volume of verse entitled *African Items*, and his novels included *Souls in Bondage*, *Salvator*, and *Margaret Harding*. He wrote many short stories published in English and American magazines, some of which were collected into volumes.

Gilchrist, Albert Waller.

Gilchrist, John Dow Fisher.

Gill, Laura Drake.

Gill, Thomas Augustus. Rear Admiral, U.S.N., retired, and former chaplain of the United States Navy, died at Littleton, N. H., Aug. 2. He was born at Philadelphia, Pa., Feb. 8, 1840, and after graduating from Bucknell University in 1865, studied at its theological seminary from which he received the degree of B.D. in 1867, and that of D.D. in 1893. He served two enlistments in the Union Army during the Civil War. In 1868 he became a pastor in Philadelphia. On Dec. 22, 1874, he was appointed a chaplain of the Navy by President Grant. He was retired with the rank of rear admiral in Feb. 1902. He made his home in Brookline, Massachusetts.

Glenn, Edwin Forbes.

Glennan, Arthur Henry.

Goldsmith, Peter H.

Gonzales, Ambrose Elliott.

Gorst, Nina Cecelia Francesca (Mrs. Harold). British novelist and dramatist, died at London, England,

Oct. 19. She was born Nov. 2, 1869, and was a sister of Charles Rann Kennedy, author of *The Servant in the House*. She was educated at home. She was the author of many realistic novels, often using the London slums for their setting.

Govin, Rafael Ramon. American publisher, died at Monte Carlo, Monaco, Feb. 14. He was born in New York City, Aug. 31, 1868, and received his early education at private schools, and under tutors. In 1889 he graduated from the Columbia University Law School, and for a while practiced law in New York City. In 1896 he became interested in newspaper work, becoming publisher and manager of *The Journal of Commerce*, New York, and of *El Mundo* and *La Prensa*, Havana. From October, 1923, he was president and general manager of *The Journal of Commerce*, and was also active in various commercial enterprises, being president of the Inter-Ocean Oil Company.

Granniss, Mrs. Elizabeth Bartlett.

Greenway, John Campbell.

Greenfell, Bernard Pyne.

Grey-Wilson, Sir William. British Government administrator, died on Feb. 14. He was born in Kent, Eng., Apr. 7, 1852, and was educated at Cheltenham College, and in France. He was private secretary to Sir William Grey, Governor of Jamaica, in 1874, and to Sir Frederick Barlee in 1877. In the following year he was made clerk to the executive and legislative councils of British Honduras, and in 1884 he became assistant colonial secretary for the Gold Coast of Africa. In 1886 he was colonial secretary for St. Helena, and the year after he was made governor, which post he held for 10 years. On his recall thence he was appointed governor of the Falkland Islands, from 1897 to 1904, and from the latter year to 1912 he was governor of the Bahamas. He was made a K.C.M.G. in 1904, and in 1918 he was created a Knight of the British Empire.

Grossman, Louis.

Gunn, George Miles. American banker and Democratic politician, died in New Haven, Conn., Sept. 8. He was born at Milford, Conn., in 1851, and was graduated from Yale in the class of 1874, being a member of the first Yale football team and playing in the first Yale-Princeton game in 1873. After graduating, he taught in the Cheshire Military Academy, and then graduated from the Yale Law School in 1878. He practiced law in New Haven and in Milford until he became president of the National Tradesman's Bank of New Haven, Conn. He served several terms in the Connecticut Legislature, and in 1907 was Democratic leader of the house.

Guppy, Henry Brougham.

Gupta, Sir Krishna Govinda.

Guyer, William Harris.

Hackett, Frank Warren.

Hackett, James Keteltas.

Hackett, William Stormont. American banker, and mayor of Albany, N. Y., died at Havana, Cuba, Mar. 4. He was born at Albany, Dec. 7, 1868, and was educated at the high school of that city, entering commercial life as a clerk in the Albany City National Bank in 1887. In 1893 he became treasurer and secretary of the City Savings Bank of Albany, serving in this capacity until 1917, when he was elected president. He was admitted to the New York bar in 1889, and, as a Democrat, was elected mayor of Albany, 1922-26.

Haddock, Edgar. A British violinist, died at Leeds, Aug. 9. He was born there in 1862. In 1884 he began his series of musical evenings, which became an annual event and soon spread his fame throughout England. In 1891 he appeared with Joachim in Spohr's *Double Concerto*. With his brother Percy he founded the Leeds College of Music, of which he was director till his death. Besides a *Practical School for the Violin*, he wrote some original compositions for his instrument, and edited a number of famous violin pieces.

Haggard, Sir William Henry Doveton.

Haight, Albert. American jurist, died at Buffalo, N. Y., Oct. 6. He was born at Ellicottville, N. Y., Feb. 20, 1842, and received his early training at the Springville, N. Y., academy, being admitted to the bar in 1863. He became county judge of Erie County in 1872. In 1876 he became justice of the Supreme Court of the eighth judicial district, and was later justice for the 5th department, and associate judge of the 2d Division, Court of Appeals in 1889-94. On Jan. 1, 1895, he became an associate judge of the Court of Appeals of New York, serving until Dec. 31, 1912, when he retired from the bench.

Haines, Henry Cargill. Brigadier general, U.S.M.C., retired, died at Berkeley, California, Aug. 8. He was born at Ft. Leavenworth, Kan., Nov. 19, 1858, the son of Brig. Gen. T. J. Haines, U.S.A., and graduated from the U. S. Naval Academy in 1881. He was appointed second lieutenant in the Marine Corps, July 1, 1888, and was promoted through the various

ranks to brigadier general, Jan. 14, 1920, retiring Jan. 1, 1923. General Haines was in charge of the various local offices of the Marine Corps on the Pacific Coast, and in 1908-12 was on duty at Washington.

Halstead, Albert Edward. American surgeon, died Dec. 6. He was born at Ottawa, Canada, Apr. 21, 1868, and received his M.D. at Northwestern University Medical School in 1890, in which year he became interne at Cook County Hospital, Chicago, remaining there until 1891. He then began the practice of medicine in Chicago. In addition to his practice Dr. Halstead was for twenty years attending surgeon at Cook County Hospital; professor of anatomy at Northwestern University Medical School; and professor of surgery at Illinois State University. In 1917 he was made lieutenant colonel in the U. S. A. Medical Corps, serving abroad with the A. E. F.

Hamlin, Alfred Dwight Foster.

Hanford, Charles Barnum.

Harris, John Royall.

Harris, Admiral Sir Robert Hastings.

Harris, Robert Orr. American lawyer, died at Brockton, Mass., June 13. He was born at Boston, Mass., Nov. 8, 1854, and graduated from Harvard in 1877. Entering the profession of law he practiced at Boston and Brockton, Mass., being elected a member of the Massachusetts House of Representatives in 1889. From 1892-1901 he was district attorney for the southeastern district of Massachusetts, and in 1902-11 he was associate judge of the State Supreme Court. He served as a representative in Congress from 1911-13 from the 14th Massachusetts district. Appointed United States district attorney for Massachusetts in 1924, he became involved in a controversy with Mrs. Mabel Walker Willebrandt, assistant attorney general of the United States, over the enforcement of the Prohibition law, and was removed by order of President Coolidge after refusing to resign his office.

Harrison, Frederick.

Hart, William H.

Hartshorn, William Henry. American educator, professor of English in Bates College, Lewiston, Me., died at Lewiston, Feb. 24. He was born at Lisbon, Me., June 17, 1863, and graduated from Bates College in 1886. In the same year he became superintendent of schools and principal of the High School at Laconia, N. H., serving until 1889, when he became instructor in physics at Bates College. He was made professor in 1890, and was transferred to the English department in 1894. In 1919-20 he was acting president of the college.

Harwood, George Alexander. American railway official and a vice-president of the New York Central Lines, died at White Plains, N. Y., Nov. 4. He was born at Waltham, Mass., Aug. 29, 1875, and after graduating from the English High School, Boston, in 1892, studied engineering at Tufts College, receiving the degree of B.S. in 1898. In 1900 he joined the engineering staff of the New York Central, and Nov. 1, 1906, was appointed chief engineer of the electric zone improvements. He was also in charge of the construction of the Grand Central Terminal, and various improvements in connection with electrification. In 1918-20 Mr. Harwood was corporate chief engineer of the New York Central Lines and of the Rutland Railroad Co. and in the latter year was made assistant to the president, serving until 1924 when he was made vice-president. He was a trustee of Tufts College.

Harwood, Harry. American actor, died at Portland, Me., Aug. 2. He was born in New York City in 1848, and for fifty years was well known on the American stage, being a member of Frohman's and Daly's companies. Among the more notable plays in which he appeared were, *The Man of the Hour*, *Suzanne*, and *The Senator Keeps House*.

Haupt, Paul.

Hawkins, Thomas Hayden. American physician, died at Plainfield, N. J., July 20. He was born in Kentucky in 1848, and after graduating from De Pauw University entered Bellevue Medical College in New York, receiving the degree of M.D. in 1878. He engaged in general practice in New York until 1880, when he went to Denver, Colo., as president of Goss Medical College. He was editor of the *Denver Medical Times*, Hayami, Seiji.

Heigho, Colonel E. M. American railway man, died in Boise, Idaho, Aug. 27. He was born at Grays, Eng., Oct. 23, 1867, and, going to the United States at the age of 15, entered railway service in Detroit as an office boy. He served in many railway offices. In 1904 he was elected vice-president, general manager, and treasurer of the Pacific and Idaho Northern R. R., and in 1909 was elected president, general manager, and traffic manager. In Sept. 1915, he was appointed receiver, being in general control of the property and its operation. Notwithstanding a stroke of paralysis in Nov. 1917, he continued his duties as president and general manager until Oct. 1918, when he re-

signed the latter position, retaining the presidency until he was forced to retire from active business in March, 1919.

Henry, Bayard. American lawyer and financier, died at San Francisco, Calif., Sept. 17. He was born at Philadelphia, Pa., Jan. 15, 1857, and graduated from Princeton University in the class of 1876. He took up the profession of law and became a partner of George Wharton Pepper. He also was president of the United New Jersey Railroad & Canal Co., director of the Pennsylvania Railroad Co., the Lehigh Coal and Navigation Co., the United States Fidelity & Guaranty Co., of Baltimore, and many other corporations. In 1898-1902 he was a member of the Pennsylvania Senate, and he was a member of the Select Council of Philadelphia, 1908-11. He was a trustee of Princeton University.

Herd, Louis A.

Hering, Carl.

Hermann, Binger.

Herrick, George F. American missionary in Turkey, died in New York, N. Y., Oct. 28. He was born at Milton, Vt., in 1834, and, going to Turkey, was for 25 years a teacher in the Congregational Mission Theological Seminary, and for three years was president of Anatolia College. He translated and revised the Bible for Turkish readers, and superintended the publication in Turkish of various missionary books. He also wrote religious books in Turkish, and one in Armenian.

Herring, Augustus M.

Hewins, Caroline Maria.

Hioki, Eki.

Hitchcock, Francis R. American sportsman and breeder of thoroughbreds, died at sea, Apr. 18. He was born in New York, and after graduating from Columbia College in 1878, and studying law he became greatly interested in outdoor sports, and particularly in racing. He was elected a member of the Jockey Club in 1895, and on Oct. 18 of that year became one of its stewards, a place he held until his death. He was active in the reestablishment of racing at Saratoga, being president of the Saratoga Association for the Improvement of the Breed of Horses in 1904-08. He was a governor of the Coney Island Jockey Club for many years, serving as its treasurer in 1908 until the organization was dissolved in 1917. About that time he transferred a large part of his interest in the turf to France, and was an active participant in racing on the French tracks. Mr. Hitchcock also engaged in the breeding of thoroughbreds, and was the owner of many well known horses in America and Europe.

Hoban, the Rt. Rev. Michael John

Hobart, George Vere.

Holland, Arthur. American railway executive and at one time president of the Bangor and Aroostook R. R., died at Concord, Mass., Oct. 1. He was born at Boston, Mass., Sept. 22, 1850, was graduated from Harvard University in 1872. From 1897-1901 he was agent for the Illinois Steel Co. at London, Eng., and in 1902-05 he was president of the United Railroads of San Francisco. In 1908-11 he was a member of the executive committee of the York Ry., York, Pa., and in 1912 became president of the Bangor and Aroostook, a position he held until 1916.

Holland, Joseph Jefferson. American actor, died at New York, N. Y., Sept. 25. He was born in New York City, Dec. 20, 1860, the son of George Holland, a well known actor. He was educated in the public schools of New York City, and in his early life took juvenile parts in a number of productions. He appeared professionally with George Rignold, Mar. 25, 1878, in Shakespeare's *Henry V*. He played various rôles in New York, Philadelphia, and San Francisco, starting with his brother, E. M. Holland, in *The Social Highwaymen*, and alone in *The Mysterious Mr. Bugle*. He retired from the stage in 1904.

Holland, Sir (Thomas) Erskine.

Holley, Marietta.

Holt, Henry.

Hood, William. American civil engineer, died at San Francisco, Cal., Aug. 26. He was born at Concord, N. H., Feb. 4, 1846, serving as a private in the Forty-sixth Massachusetts Volunteers during the Civil War for two years. He graduated from Dartmouth College with the degree of Bachelor of Science in 1867, and immediately began work on the Central Pacific Railroad as rodman with an engineering field party. As a railway engineer he was responsible for much notable work in the way of railway location and construction on the Pacific Coast and in the Rocky Mountain region; his more notable achievements included the construction of the Tehachapi loop, the building of the Lucin cut-off across the Siskiyou Mountains, and the completion of the line through the Oquirrhos Gorge uniting the Imperial Valley with San Diego. In 1923 Dartmouth honored him with the honorary degree of



Doctor of Science, and at the time of his death he was one of the few remaining engineers identified with the bold, pioneer railroad construction in the western United States.

Hopkins, Archibald. American lawyer, died at Washington, D. C., June 18. He was born at Williamstown, Mass., Feb. 1842, the son of President Mark Hopkins of Williams College. He graduated from Williams in 1862, and, entering the Union Army, served as captain, brevet major, lieutenant colonel, and colonel with the 37th Massachusetts Volunteers, 1862-65. In 1867 he studied law at Columbia, being admitted to the bar in that year, and practicing in New York City until 1873, when he was appointed clerk of the United States Court of Claims, a position he held until 1914. He was chairman of the board of the Associated Charities of Washington, and a trustee of the Legal Aid Society. He was a member of the board of visitors to the U. S. Military Academy, and a delegate to the International Peace Conference. He was vice-president of the trustees of George Washington University, president of the District of Columbia Society of the Sons of the Revolution, and chancellor of the District of Columbia Commandery of the Loyal Legion. He wrote *The Apostles' Creed* (1909), and occasional prose and verse.

Horner, Ralph Joseph.

Hotchkiss, Dr. Lucius Wales. American surgeon, died at Santa Barbara, Calif. Apr. 13. He was born in New Haven, Conn., Dec. 31, 1859, and graduated from Columbia College in 1881, and from the College of Physicians and Surgeons of Columbia University in 1884. He began medical practice in New York in 1886, was professor of clinical surgery in the College of Physicians and Surgeons, and consulting surgeon for several hospitals.

Houdini, Harry.

House, Francis Edwin. American railway president, died at Janesville, Wis., Apr. 3. He was born at Houseville, N. Y., Nov. 15, 1855, and after studying at Rensselaer Polytechnic Institute, Troy, N. Y., began as a mining engineer and assayer for the Manhattan Silver Mining Co., at Austin, Nev., in 1877. Three years later he entered the engineering department of the Chicago, Milwaukee & St. Paul Ry. at Chicago. He held many railroad positions and in 1896 he was made chief engineer of the Ressemer & Lake Erie, general superintendent in 1897, and general manager in 1901. In the latter year he was elected president of the Duluth & Iron Range R. R., and, during the period of Federal control, was Federal manager of the Duluth & Iron Range and the Duluth, Missabe & Northern.

Houston, Sir Robert Paterson, First Baronet. British ship owner, died at St. Saviour's, Jersey, Eng., Apr. 14. He was born at Bootle, Eng., May 31, 1853, and was educated at Liverpool College and apprenticed to the engineering and shipbuilding trade. In business for himself, he built up the Houston Line to the River Plate. In addition to his activities as shipowner, he was elected to Parliament as a Conservative in 1892, for the West Toxteth division of Liverpool, and represented that division continuously for 32 years. In 1922 he was made a baronet, and in 1924 ill-health forced him to retire from Parliament. He was a well known yachtsman, and at one time was mentioned as a possible challenger for the American's Cup.

Howard, John Raymond.

Howe, Herbert Alonzo.

Howland, John.

Howson, Frank A. An American conductor and composer, died at Hollis, N. Y., June 29. He was born in London, Eng., in 1841, but was reared in Sydney, Australia. In 1866 he went to the United States as conductor for his father's opera company, which gave performances in California. Later he settled in New York as conductor at various theatres. His compositions consist almost exclusively of incidental music to plays produced by Daniel Frohman and Augustin Daly.

Howze, Robert Lee.

Hozumi, Baron Chinchō (Nobushige).

Hussey, William Joseph.

Hyman, Charles Smith. Canadian statesman, died Oct. 9. He was born at London, Ont., in 1854, and was educated at Hellmuth College of that city. He was president of the Board of Trade, 1881-82, alderman, and chairman of the Finance Committee of the city from 1882-83, and mayor in 1884. He was returned to Parliament in 1891, and served as secretary of the Dominion Liberal convention in 1893. In 1904 he was sworn of the Privy Council, and made a member of the cabinet without portfolio, and in 1904-05 was acting Minister of Public Works, resigning from this position in 1906.

Isley, the Most Reverend Edward.

Ingham, the Rt. Rev. Ernest Graham. British clergyman and vicar of St. Jude's, Southsea, died Apr. 9.

He was born in 1851. His father was speaker of the House of Assembly, Bermuda; he was educated at Bishop's College School, Lennoxville, Canada, and at Oriel College, Oxford. After serving in various positions in church work, he was consecrated Bishop of Sierra Leone, in 1883, serving until 1897, when he became rector of Stoke-next-Guildford. From 1904-12 he was home secretary of the Church Missionary Society. In 1912 he became vicar of St. Jude's, Southsea, a position he held at the time of his death. He was the author of *Sierra Leone After a Hundred Years* (1894); *From Japan to Jerusalem* (1911); and *Sketches in Western Canada* (1913).

Inness, George, Jr.

Jaegle, Charles J. Roman Catholic publisher, died at Pittsburgh, Pa., Nov. 6. He was born in Freiburg, Germany, in 1853, and came to America in 1868, settling in Pittsburgh. In 1880 he became manager of the *Pittsburgh Beobachter*, a German Catholic newspaper, holding this position until 1898, when he established the *Pittsburgh Catholic Observer*, the official organ of the Roman Catholic Diocese of Pittsburgh. He was publisher of this paper until 1916, when he retired. He was one of the founders of the Catholic Press Association in the United States and Canada, and at one time served as trustee of Duquesne University.

Jeffers, Leroy. American librarian, known as a mountaineer and explorer, died at Wawona, Calif., July 25. He was born at Ipswich, Mass., Aug. 1878, and after serving as manager of the Booklovers' Libraries, 1901-04, he became connected with the New York Public Library in 1905 as manager of the book order office, a position he held at the time of his death. In 1916 he organized the Associated Mountaineering Clubs of North America, comprising 65 clubs and societies active in the creation, development, and protection of national parks and forests. He was a member of the Council on National Parks, Forest and Wild Life, and of the general council of the National Conference on Outdoor Recreation. He was a member of many mountaineering and other societies, and was the author of *The Call of the Mountains* (1922); as well as a contributor to periodicals, on mountaineering, travel, psychology, and library economy.

Johnson, William F. American missionary in India, died in Mainpur, India, July 6. He was born at Oadiz, Ohio, in 1838, and graduated from Old Jefferson College at Canonsburg, Pa., in 1857, studying later at the Western Theological Seminary, Pittsburgh, Pa. He was ordained in 1860, and went to India as a missionary to take the place of a brother killed in the Cawnpore mutiny. In 1885 he returned to America, becoming president of Biddle University, Charlotte, N. C., but in 1891, went back to India. He translated the Bible and English classics into Hindustani.

Johnston, Rienzi Melville.

Jones, William Larimer. American steel manufacturer, died at Pittsburgh, Pa., Nov. 25. He was the son of Thomas M. Jones, a prominent steel manufacturer. After graduating at Princeton in 1887, he became assistant to his father. In 1922, when the Jones & Laughlin Steel Corporation was formed, he became its president.

Junod, Louis Henry. Consul general of Switzerland at New York, died at New York, N. Y., Aug. 3. He was born in Neuchâtel, Switzerland, in 1861, and was educated at the College of Nice. When 22 years of age he went to the United States as representative of Swiss manufacturers of laces and embroideries, and developed a large business. In 1917, as Swiss Consul, he took over the affairs of the German Consulate General until after the World War.

Kahn, Max D.

Kammerer, Paul.

Kato, Viscount Takaakira.

Kawamura, Viscount Kagesaki.

Kemp, James Furman.

Kendrick, Leon Harry. American editor, died Sept. 22. He was born in England in 1841, but went to the United States as a young man and made his home in New York. In the Civil War he enlisted in the 4th Massachusetts Cavalry and rose to the post of assistant adjutant general, with the rank of major, and became the chief of General Grant's escort. For many years he owned and edited the *Hudson County* (N. J.) *Democrat*, in which he maintained a Republican policy.

Kerimer, Otto.

Key, Ellen.

King, Alfred. British organist and composer, died at Brighton, Apr. 26. He was born at Shelley, Essex, Apr. 24, 1837. Having held various posts as organist, he settled in Brighton, in 1865, as organist at St. Michael's and subsequently became connected with the parish church. In 1878-83 he was one of the conductors of the Brighton festival. In 1888 he founded the Brighton School of Music, of which he still was

director at the time of his death. His works include an oratorio *The Epiphany* (Brighton Festival, 1891), a cantata, a mass, sacred music and choruses.

Klein, Franz.

Kneeland, Stillman Foster.

Kneisel, Franz.

Knox, William John.

Kohler, Kaufmann.

Lafayette, Paul Marie Joseph de Pourcet de Sahune du Motier, Comte de. Great-great-grandson of Major General Lafayette, and a great-grandson of George Washington Lafayette, the only son of the Revolutionary general, died in Mount Vernon, N. Y., June 17. He was born in France in 1844. He went to the United States in 1902 to represent the Lafayette family at the unveiling of the Rochambeau monument in Washington, and again in 1908 to live. He had been for 15 years an army officer serving in the French cavalry in Senegal, the French Sudan, and in Africa. He was a Chevalier of the Legion of Honor, and an honorary member of the Society of the Cincinnati, State of Virginia.

Lange-Muller, Peter Erasmus.

Lanier, Charles. American banker, died in New York City, Mar. 7. He was born at Madison, Ind., Jan. 19, 1837, and was educated at Russell's Military School, New Haven, Conn. Entering commercial life at the age of 23, he became a member of the firm of Winslow, Lanier & Co., bankers. In this capacity he was interested in many railway and other corporate interests, being president of the Pittsburgh, Fort Wayne & Chicago Ry. Co., and the Massillon & Cleveland R. R. He was a trustee of the Central Union Trust Co. of New York and a director of the Southern Railway Company.

La Rocque, the Rt. Rev. Paul. Roman Catholic Bishop of Sherbrooke, Quebec, died Aug. 15. He was born at Marieville, P. Q., Oct. 28, 1846, and was educated at the Colleges of Ste. Thérèse and St. Hyacinthe. He was ordained in 1869, and, after serving in various fields, became rector of the cathedral of St. Hyacinthe in 1884. He held this charge until 1893, when he was consecrated Bishop of Sherbrooke.

Lathrop, Rose Hawthorne.

Lattermann, Theodor. A famous German dramatic basso, died in Berlin, in March. Born in 1880 in Frankfurt, he began life as a sculptor, but soon turned to music. He won his great reputation at the Stadt-theatre in Hamburg, but appeared frequently as a guest at the principal German opera houses. In 1923 he made a tour of the United States as a member of the Wagnerian Opera Co. In 1910 he married the contralto Ottilie Metzger, one of the stars of the Hamburg Stadt-theatre.

Lawrence, (Alfred) Clive. British Government official and Solicitor to the Treasury since 1923, died at Cheltenham, Mar. 13. He was born in 1876, the eldest son of Baron Trevelthyn, and was educated at Haileybury and Trinity Hall, Cambridge. He was called to the bar at the Middle Temple in 1902, and served in various positions as counsel, and solicitor to government departments. In 1918 he was made Commander of the Order of the British Empire, and in the following year Officer of the Order of St. Maurice and St. Lazarus of Italy. In 1923 he was made King's Proctor, and Solicitor to the Treasury, a position he held at the time of his death.

Laws, Elijah. American naval officer, died at Morristown, N. J., Sept. 25. He was born in Pennsylvania in 1833 and entered the navy in 1858 as third assistant engineer. He held the rank of second assistant engineer during the Civil War, and in 1870 was advanced to chief engineer, retiring in 1906 with the rank of rear admiral.

Lee, John Mallory. American surgeon, died January 11. He was born at Cameron, Steuben Co., N. Y., Sept. 29, 1852, and after studying at the Penn Yan (N. Y.) Academy, and with private tutors, went to the University of Michigan where he received the degree of M.D. in 1878, later taking post graduate courses at the Post Graduate College and Polyclinic in New York City. From 1887-98 he was surgeon, consulting surgeon, and surgeon-in-chief to the Rochester Homeopathic Hospital, consulting surgeon of the Hahnemann Hospital, 1908-19, consulting surgeon to other hospitals, and state medical examiner under the Regents of the State of New York, 1895-1907, being president of the joint board of medical examiners representing the three schools of medicine, 1901-07. He had been at various times president of the American Institute of Homeopathy and of the American Radium Society. He was the author of many articles on medical and surgical topics, and one of the authors of the *Fisher-MacDonald Text Book of Surgery*.

Lee, Sir Sidney.

Le Hay (Healy), John. Irish actor, died in London, Eng., Nov. 10. He was born in Dublin, Mar. 25, 1854, and, becoming an actor in 1879, was a member

of the chorus of *The Zoo*. For a number of years he played in Gilbert and Sullivan operas with the D'Oyly Carte company at the Savoy Theatre. In 1886 he played Tom Strutt in *Dorothy*, and Crook in *Doris*, at the Lyric Theatre, and also was successful as Alexander McGregor in *My Girl*. He went on an American tour in the United States with the *Rose of Persia*, *Veronique*, and the *Emerald Isle*, and also traveled as a ventriloquist. In the performance of *Potash and Perlmutter* in London, during the War, he played Abe Potash.

Leishman, Sir William Boog.

Léon, Mischa. An American dramatic tenor, died in New York, Apr. 7. He was born in Minnesota, but studied in Copenhagen, where he made his début in Auber's *Fra Diavolo*. He went to the United States in 1912 as member of the Savage Opera Company, singing the next year with the Aborn English opera company in New York. After that he was heard at the Grand Opéra in Paris and at Monte Carlo and in recitals in London. In 1918 he married the dramatic soprano, Pauline Donalds.

Le Sage, Sir John Merry. British journalist, died at Hurlingham, Eng., Jan. 1. He was born at Clifton, Eng., Apr. 23, 1837, and was educated at that town, Bath, and London. Entering journalism, he worked first in the provinces, and then joined the staff of the *Daily Telegraph*, with which paper he was connected for years. He acted as special correspondent in several military campaigns, being with the German Army in 1870 and with Lord Wolseley's force in Egypt in 1882. He was in Paris during the whole period of the Commune. He became managing editor of the *Daily Telegraph*, retiring in June, 1923. He was knighted in 1918, and was Lieutenant of the City of London.

Leslie, Sir Bradford. British engineer, died at London, Eng., Mar. 21. He was born in London in 1831, and at the age of 16 was apprenticed to Brunel, the famous bridge designer and engineer, with whom he was associated until 1859. His first important achievement was the Gorai Bridge in India, where a new boring gear was used for sinking caissons in the shifting river bed. In 1876 he became agent and chief engineer of the East Indian Railway Co. In 1887 he was created Knight Commander of the Order of the Indian Empire.

Levy, Max. American inventor, died July 31. He was born at Detroit, Mich., Mar. 9, 1857, and after studying architecture in Detroit in 1875 engaged in photo engraving. To him was due the modern screen for the half-tone process as well as other advances in half-tone illustration, for which he received the John Scott medal, from the Institute of Philadelphia and other honors. He was a frequent exhibitor at many photographic and other exhibitions, and invented a counting chamber for the hemocytometer. During the World War he rendered valuable assistance to the U. S. War Department in the development of optical instruments.

Lewis, Agnes Smith.

Lewis, Jeffreys (Mrs. Harry Mainhall).

Lewis, William James. British mineralogist and professor at Cambridge University, died at Godalming, Eng., Apr. 16. He was born Jan. 16, 1847, and was educated at Jesus College, Oxford, taking honors in mathematics and natural science. In 1874 he went to Cambridge, and studied mineralogy under Prof. W. H. Miller as a member of Trinity College, and in Feb., 1881, he succeeded his teacher as professor of mineralogy in Cambridge University. In 1899 he published a treatise on crystallography.

Lincoln, Robert Todd.

London, Meyer.

Loomis, Archibald Gilbert. Banker and treasurer of the Chicago, Milwaukee & St. Paul Ry., died at Chicago, December 8. He was born in Hartford, Conn., June 20, 1848, and began business life as a bank clerk in Hartford, being with the Aetna National Bank of that city from 1865-99, and serving as its president from 1891, until he moved to New York to become vice-president of the National City Bank. He was also connected with the banking house of N. W. Halsey & Co., and in 1907-15 was vice-president of the Union Trust Co. of Providence, R. I. In 1917 he became treasurer of the Chicago, Milwaukee & St. Paul Railway.

Loukoff, General. Bulgarian soldier and statesman, died at Sofia, Apr. 19. He was commander of the second Bulgarian army during the World War, and later chief of staff. He represented Bulgaria in the negotiations with France for an armistice in Sept. 1918.

Lovett, Robert H. American jurist and at one time Assistant Attorney General of the United States, died in Chicago, Ill., August 28. Born at Brimfield, Ill., in 1852, he was educated at the State Normal School, Normal, Ill., and was admitted to the Illinois bar in 1885. After practicing in Peoria he served for 11 years as county judge. He acted as United States mas-

ter in chancery and commissioner for many years, and in April, 1921, was appointed by President Harding assistant attorney general of the United States in charge of litigation involving claims. He was active in the preliminary investigation of the Teapot Dome situation.

Lyman, George Richard.

MacAlpine, Robert John.

MacArthur, Arthur Frederic.

McAvoy, Francis S. American jurist, died in New York City, Aug. 6. He was born in 1856, and was active in Democratic politics in the city of New York. In 1905 he was made a city magistrate, and later became judge in the Court of General Sessions. He was elected Recorder of the Court of General Sessions, holding that office until it was abolished in 1907 by the legislature.

McBride, Robert W.

McClelland, Thomas. American educator, died at Galesburg, Ill., Jan. 29. He was born at Quilly, Ireland, May 1, 1846, and going to America, was graduated from Oberlin College in 1875, studying at the Oberlin Theological Seminary, 1876-77, and the Union Theological Seminary, New York, 1877-78, and graduating from Andover Theological Seminary in 1880. In that year he became professor of philosophy in Tabor College, serving until 1891, when he was elected president of the Pacific University of Oregon. He was there until 1900, when he was called to Knox College, serving as its president until 1917, when he became president emeritus. In 1905-17 he was a trustee of the Carnegie Foundation for Advancement of Teaching.

McClelland, Edward John.

McClurg, Ogden T. American publisher and explorer, died at Chicago, Ill., Apr. 20. He was born at Chicago, Ill., Sept. 8, 1879, the son of General Alexander C. McClurg, founder and president of the publishing firm of A. C. McClurg & Co. He was graduated from Yale in 1901 and became president of A. C. McClurg & Co. During the World War he was a lieutenant commander in the navy, acting as chief of staff of the district at Brest, France.

McCoy, William Johnston.

McDonald, John Bacon.

McFadden, George H.

McKenna, Joseph.

McKenzie, Andrew C. American architect, died at Brooklyn, N. Y., Oct. 10. He was born in Dunkirk, N. Y., in 1861, and, when a young man entered the practice of architecture with the firm of Eiditz & McKenzie. This firm, which designed a number of important buildings, later became McKenzie, Voorhies & Gmelin, and designed the Barclay-Vesey Building of the New York Telephone Company on Vesey Street, New York City, with others.

McKinley, William Brown.

MacLaren, John James.

McLeer, James Crooke. American soldier and lawyer, died at Brooklyn, N. Y., Sept. 25. He was born at Brooklyn, in 1871, the son of General James McLeer, a veteran of the Civil War. He attended the New York University Law School, being admitted to the New York bar in 1898. In that year he enlisted in Troop C, 1st New York Cavalry, and served during the Spanish-American War. In 1916 he served on the Mexican border as lieutenant colonel of the 1st New York Cavalry, and in the World War he commanded the ammunition train of the 27th Division.

McMillan, Sir William.

Mair, George Herbert.

Mance, Sir Henry Christopher.

Mapother, Wible Lawrence.

Margherita, (Marie Margherita Teresa Giovanna de Savoia), Queen Dowager of Italy.

Markley, Alfred Collins.

Marshall, William A. American naval officer, died at Jamestown, R. I., July 10. He was born Oct. 17, 1849, and graduated from the U. S. Naval Academy in 1871. He rose through successive grades to rear admiral in 1910, and was retired on account of age, Oct. 17, 1911.

Martin, Thomas F.

Marvin, Winthrop Lippitt.

Masini, Angelo.

Massey, Chester D.

Mastbaum, Jules E.

Megata, Baron Tanetaro.

Melton, William Davis.

Mercier, Cardinal Desiré Joseph.

Merck, George. American manufacturer, died at Orange, N. J., Oct. 21. He was born at Darmstadt, Germany, in 1867, the son of Wilhelm Merck, the founder of the chemical manufacturing firm of that name. He arrived in the United States in 1891 and established a business similar to that of his father, but preserving his independence. He retired from the active presidency of the company in 1924.

Merriman, John Xavier.

Merten, Rear Admiral (Pasha).

Metcalf, Leonard. American civil engineer, died Jan. 29. He was born at Galveston, Tex., Aug. 26, 1870, and graduated from the Massachusetts Institute of Technology in 1892. In 1897 he became a consulting engineer in Boston, and a member of the firm of Metcalf & Eddy. He had been president of the American Water Works Association, the Northeastern Water Works Association, and the Boston Society of Civil Engineers, and chairman of the Council of Affiliated Technical Societies of Boston.

Miles, Gwilym. A distinguished American concert baritone, died in St. Louis, July 2. He was born in 1868. He made several appearances with the Boston Symphony Orchestra, but his specialty was oratorio. From 1919 till his death he was director of music of the Fitchburg, Mass., high school.

Miles, Sir Herbert. British soldier and educator, died in May. He was born July 31, 1850, and was educated at Wellington College and the Royal Military College, Sandhurst. He entered the army in 1869. In May, 1881, he took over the position of garrison instructor at Aldershot, and became A.A.G. "for instruction" at Aldershot in 1893, and Commandant of the Staff College in 1898. In 1899, on the outbreak of the South African War, Colonel Miles was made A.A.G. on the headquarters staff of the original expeditionary force; while with this expedition he twice received mention in dispatches, the Queen's medal with six clasps, and a C.B., and was made chief of staff. He served in various positions until April, 1913, when he retired from the Army, and was appointed Governor of Gibraltar. He held this post until 1918. He was Colonel of the Royal Munster Fusiliers; Governor of Wellington College; Commissioner of Chelsea Hospital; Grand Officer of the Legion of Honor; Grand Officer of the Crown of Italy; and held the Grand Cross of Isabel la Catolica of Spain.

Miller, Harlan D. Bridge engineer of the California Highway Commission, died Oct. 20. He was a graduate of the Case School of Applied Science, class of 1904. He was successively with the J. P. Cowing Co., the bridge department of the New York Central R. R., and the New York State Engineer's Office. In 1915 he became a partner in the firm of Watson, Davis & Miller of Cleveland. In 1919 he was appointed assistant bridge engineer for the California State Highway Commission, and in 1924 became chief bridge engineer, which position he held until his death.

Miller, Henry.

Moffett, Cleveland (Langson).

Mohammed VI.

Mollenhauer, Louis. An American violinist and teacher, died in Brooklyn, Feb. 8. He was born there, in 1863, and studied with his uncle, Edward Mollenhauer. After the death of his father, Henry, in 1889, he succeeded him as director of the Mollenhauer Conservatory in Brooklyn, but two years later withdrew and established his own music school, which he conducted till his death.

Mouet, Claude.

Montgomery, Benjamin F. American soldier and first head of the White House telegraph bureau, died in New York, N. Y., July 7. He was born at Petersburg, Va., on July 5, 1853, was educated at the Kenley Academy, in Virginia. In 1875 he joined the Army Signal Corps, and in March, 1877, he was selected to take charge of the telegraph office then just established in the White House. For his services there during the Spanish-American War he was made a colonel. In 1905, Colonel Montgomery was transferred to California, and in 1907 he retired from the Army.

Mooney, Charles Patrick Joseph.

Moore, Forrius Jewett.

Moore, Harry Humphrey.

Moore, Walter William.

Moran, Thomas.

Morrow, William H. American lawyer, died on July 14, at Belvedere, N. J. He was born at Deckertown, N. J., Feb. 10, 1844, and was admitted to the bar in 1865. In December, 1878, he was appointed judge of the common pleas court of Warren County, and he served for five years. In 1891 he was reappointed by Governor Abbott, and in 1893 he was again appointed for a full term of five years by Governor Wertz. Judge Morrow was also mayor of Belvedere for two terms, and for a number of years he served on the State Board of Education.

Morschauer, Charles. American justice, died at Red Hook, N. Y., Dec. 30. He was born in 1859, a brother of Supreme Court Justice Joseph Morschauer, of New York State, and he was at one time a member of the State Court of Claims. Judge Morschauer was counsel for Harry Thaw in his unsuccessful attempt to obtain release from the State Hospital for the Criminal Insane at Matteawan. In 1923 he was designated an additional judge of the Court of Claims, and he was the Democratic candidate for attorney general in the 1918 elections.

Morse, Richard Cary. American pioneer in Y.M.C.A. organization, died at Brooklyn, N. Y., Dec. 25. He was born at Hudson, N. Y., in 1840, and in 1862 he graduated from Yale University. He took the degree of A.M. there, and later studied at Princeton and at Union Theological Seminary. He did not enter the active ministry, but became religious editor of the *Observer*, which had been founded by his father. Dr. Morse first became associated with the Y.M.C.A. movement in 1869, and from his efforts the organization grew from three or four branches to over two thousand. He followed the work in its various departments, rising to be general secretary of the international committee. Upon reaching the age for retirement in 1915 Dr. Morse resigned and was succeeded by Dr. John R. Mott. He would not leave the active work of the Association, however, and was made consulting general secretary of the international committee. He wrote *A History of the North American Young Men's Christian Associations*.

Moses, the Reverend Dr. Isaac S.  
Mossesohn, the Reverend Dr. Nehemiah.  
Mott, Sir Frederick Walker.  
Mudd, Seesley Wintersmith.  
Murkland, Charles Sumner.  
Murray, Lawrence O. American banker and politician, died at Elmira, N. Y., June 10. He was born in 1864 in Steuben County, N. Y., and received most of his education at Niagara University. He later received degrees from the Metropolis Law School in New York and from New York University. He was admitted to the bar in 1893, and after practicing law in New York, entered the Treasury Department under Secretary Carlisle. In 1898 he was appointed Deputy Comptroller of Currency, holding the post for one year. In 1904 he was appointed by President Roosevelt Assistant Secretary of Commerce and Labor, and in 1908 he became Comptroller of Currency. On the expiry of his term of office in 1913, Mr. Murray became president of the United States Trust Co. In 1917 he was made production expert in the accounting section of the Signal Corps, U.S.A., later serving in Europe as field secretary of the Knights of Columbus in the World War Work. After the War, Mr. Murray became chairman of the liquidation committee of the American Red Cross.

Nammack, Charles Edward. American physician, died in New York, Oct. 4. He was born in New York in 1856, and received his medical degree from Bellevue Medical College in 1881, and he became a bachelor of philosophy of St. Francis Xavier College in 1895. In 1908 Fordham University granted him an LL.D. He was attending physician to the out-patient department of the New York Hospital from 1881 to 1904, and surgeon of the New York Police Department for thirty-three years. On his retirement he was made honorary consulting neurologist to the Police Department. From 1896 he was visiting physician to Bellevue Hospital, and was professor of clinical medicine at Cornell Medical College, New York City, from 1898. For shorter periods Dr. Nammack was associated with the medical staffs of St. Vincent's and St. Lawrence Hospitals in New York City and St. Joseph's in Yonkers. He was president of the Board of Trustees of the Catholic Institute for the Blind, as well as a member of the Friendly Sons of St. Patrick.

Napoleon, Prince Victor Jerome Frederick.  
Naudière, C. T. de la. Canadian veteran, died in Montreal, June 2. He was a member of an old seigneurial family of Canada, and traced his ancestry to Madeleine de Vercheres. At the time of his death he was commander of the 11th Infantry Brigade, and was for forty years connected with the Joliet Regiment. Although advanced in years in 1914, he joined the 22nd Battalion in the World War and went overseas, having then the rank of major. He was promoted to the rank of colonel on the field of battle. He represented Canada at the coronation of King George.

Navarro, Alfonso de.  
Naville, Edouard.  
Nelson, Robert Wickham.  
Newbold, William Romaine.  
Nipher, Francis Eugene.  
Nolan, Thomas.  
North, Nelson Luther. American physician, eye and ear specialist, died at Sea Cliff, N. Y., July 18. He was born in 1864 in Brooklyn and after attending the Brooklyn Polytechnic Institute graduated from the College of Physicians and Surgeons of New York City. He practiced in Brooklyn, and was, for thirty-five years, an eye and ear specialist. He was senior physician of the Brooklyn Eye and Ear Hospital, and a member of the board of managers of the Brooklyn Y.M.C.A.  
Noyes, Walter Chadwick.  
Oakley, Annie (Mrs. Frank Butler).  
Odell, Benjamin B., Jr.  
Odlin, Arthur Fuller.  
Oki, Count Enkichi.

Olga, Dowager Queen of Greece.  
Onnes, Heike Kamerlingh.  
Oppenheimer, Karl.  
Orellana, General José Maria.  
Orléans, Louis Philippe Robert, Duke of.  
Osborne, Right Rev. Edward William.  
Osborne, Thomas Mott.  
Osman, Abubekr Digna.

Ostrander, Leroy F. American teacher and at one time head of the American School in Bulgaria, died at Lyons, N. Y., Dec. 12. He was born in 1872, and was educated at the Lyons Union School and Hamilton College. He was for twenty-five years head of the American School at Somakov, Bulgaria. He had returned to America from Bulgaria only two months before his death, suffering from a general breakdown consequent on the hardships endured during the World War and the period following. Before he left the country for home he was decorated by King Boris for distinguished services to Bulgaria.

Owen, the Right Reverend John.  
Page, Herbert William. British surgeon, died at Farnham, Eng. Sept. 8. He was born in 1845, and after studying surgery and entering practice served as an assistant surgeon with the Hessian division of the German army in the Franco-Prussian War. He was consulting surgeon to the Great Western and the London and North Western Rys, then to St. Mary's Hospital and the Cumberland Infirmary. In 1881 he was awarded the Boylston Medical Prize. Formerly he was a member of the court of examiners of the Royal College of Surgeons, and was examiner in surgery to the Universities of Oxford, Cambridge and Birmingham.

Pagenstecher, Albrecht. American manufacturer, died at Cornwall, N. Y., Aug. 6. He was born at Osnabrück, Prussia, in 1839, and removed to the United States. To him was given the credit of introducing into the United States the use of wood pulp in the paper industry. The first mill began operations at Curtisville, now Interlaken, Mass. Mr. Pagenstecher also organized the Laurentide Pulp Co., at Grand-Merc, Que. He was for many years a director of the International Paper Co., and was connected with various other paper and pulp companies.

Paladilhe, Emile. French composer, died in Paris, in January. He was born at Montpelier, June 3, 1844, and received his musical education at the Paris Conservatoire, winning the Grand Prix de Rome in 1860. Of his six operas *Patrie* (Paris, 1886) was the most successful, and was performed in Germany and Italy. He also wrote a symphony, two masses and other sacred music. In 1892 he was elected a member of the French Academy.

Parker, Alton Brooks.  
Parrish, James C. American financier and railway organizer, died July 1 in New York, N. Y. He was born in Philadelphia, Pa., in 1840, and graduated from Haverford College with the class of 1859. While working for his uncle, George D. Parrish, who was an importer, he traveled extensively in Europe in connection with this business, making contacts with many European capitalists. During the period, 1890-1900, when railroad readjustments were the order of the day, Mr. Parrish represented Dutch and English bondholders, and once he was said to be directly responsible for the reorganization of the Missouri, Kansas & Texas, and the Norfolk & Western Railroads.

Parry, Sir John Franklin.  
Pashitch, Nicola P.  
Pennell, Joseph.  
Pennington, Edmund.  
Perilli, John W. Physician and acting president of the board of trustees of Bellevue and Allied Hospitals' Board, died in New York, N. Y., Sept. 15. He was born in Italy in 1878. When 10 years of age he went to the United States, and attended the New York public schools. In 1898 he received his medical degree from Baltimore University. Dr. Perilli had been a trustee of Bellevue and Allied Hospitals since the beginning of 1920, and shortly before his death he retired from the presidency of the Italian Hospital, New York. He had been professor of clinical surgery at New York University Medical School. In September 1921, the King of Italy made him a Cavalier of the order of the Crown of Italy. In May, 1924, he was elected Grand Venerable of the Independent Order Sons of Italy.

Perris, Henry Woods. British Unitarian minister, died in London, Eng., Dec. 5. He was born in 1839. He represented English churches at the great Boston Unitarian conference. He had known Whitman, Holmes, Whittier, Longfellow, and Will Carleton.

Pettigrew, Richard Franklin.  
Phillimore, John Swinnerton. British Greek and Latin scholar, died Nov. 16, at Sheffield, Eng. He was born in 1873, the fourth son of the late Admiral Sir Augustus Phillimore, and was educated at West-

minster and at Christ Church, Oxford. The University of California appointed him to the Sather professorship of classics for the year 1914-1915, and he had been professor of Greek and of the humanities in Glasgow University. In 1895 he was president of the Oxford Union.

Platt, William Popham. American jurist, died at White Plains, N. Y., Nov. 2. He was born at White Plains, May 16, 1858, attended the public schools there and, in 1879, began the practice of law in that town. From 1890 to 1896 he was district attorney of Westchester County, and in 1901 returned to public office as county judge of Westchester. This office he retained until 1915 when he was elevated to the Supreme Court bench. Justice Platt was a Democrat.

Plummer, Alfred. Authority on English church history, died at his home at Bideford, Eng., Apr. 19. He was born in 1841 and was educated at Oxford, where the problem of English church history first began to attract his attention. He later became a fellow of Trinity College, Oxford (1865-1875), and was master of University College, Durham, from 1874 to 1902.

Pope, Sir Joseph. Former Under-Secretary for External Affairs in the Federal Government of Canada, died at his home in Ottawa, Dec. 2. He was born in 1853, and was the son of the late Hon. W. H. Pope, one of the fathers of Canadian confederation. He was once private secretary to Sir John MacDonald, whose biography he wrote. He represented the Canadian Government at the proceedings of the Joint High Commission which met at Quebec and Washington, 1898-99.

Postgate, John Percival. British philologist, died on July 15. He was born in England, Oct. 24, 1853, and was educated at King Edward's School, Birmingham. He gained a scholarship in Trinity College, Cambridge. He was appointed deputy reader in comparative philology in the University of Cambridge in 1889, having been classical lecturer at Trinity College since 1884. He was senior lecturer at Trinity College from 1903-1909, and was appointed professor of comparative philology in the University of London in 1908. From 1899 to 1907 he was editor of the *Classical Review* and from 1907 to 1910 acted as editor of the *Classical Quarterly*. From 1909 to 1920 he was Professor of Latin at Liverpool University, later becoming professor emeritus there. From 1922 to 1926 he was President of the Philological Society, and he was President of the Classical Association, 1924-25. Among his numerous works are *Critical Edition of Phædrus' Fables*, 1920; *Translation and Translations*, a critical work on the translations from the Classics, 1922; and *A Guide to Greek Accentuation*, 1925.

Potter, William.

Potts, James H. Editor of the *Troy Times* for 30 years, died Sept. 29, at Rockford, Ill. He was born in 1855, and in 1881 became assistant city editor of the *Troy Times*. In 1883 he became city editor, in which position he remained 13 years. From 1896 he had been editor.

Prior, Mgr. John. Dean of the Sacred Roman Rota, of the Roman Catholic Church, died April 28, at Darlington, Eng. He was born in England in 1861, and became the English member of the Sacred Roman Rota, the tribunal to which are referred all contentious cases requiring judicial procedure. One of the most famous cases coming under his jurisdiction was the appeal against the decision of the Rota annulling the marriage of Count Boni de Castellane with Anna Gould. In 1922 he was made a member of the Supreme Council for the Propagation of the Faith. His best known work is his book, *Is the Pope Independent?*

Pullen, Elisabeth (Mrs. Stanley T.). American author and critic, died at Portland, Me., July 15. She was a native of Portland, and being of Calabrian ancestry, wrote much in Italian. Her first husband was Nino Cavazza. He died at Portland, Me., a few weeks after the ceremony. In 1894 she married Stanley T. Pullen, a Portland lawyer and journalist. She was for some years musical and literary critic of the *Portland Press* and a staff contributor to *The Literary World* of Boston. Her earlier writings, written in Italian and translated into English for publication, had been signed "E. Cavazza," but after her second marriage she signed her work Elisabeth Pullen. She was a frequent contributor to the *Atlantic Monthly*. Her best known books were *Don Finimondone*; *The Man from Aidone*; *Cocco and Sidora*; and *Mr. Whitman*.

Pulver, Mary Brecht. American author, died at Philadelphia, Pa., July 16. She was born at Lancaster, Pa., in 1882, a daughter of Milton J. Brecht former public service commissioner of Pennsylvania. She graduated from the Pennsylvania State Normal School, and from the School of Applied Arts in Philadelphia. She became a frequent contributor to the *Saturday Evening Post* and other magazines. Mrs. Pulver wrote several novels. She was a member of the

Authors' League of America, the Penwomen of America, the Authors' Guild, and the Lancaster Press Club.

Purrington, William Archer. Lawyer, died in New York, N. Y., Oct. 26. He was born in Washington, D. C., in 1858, and graduated from Harvard in 1878. He studied law at Columbian (now Washington) University, and graduated in 1878. He also graduated from the law school of New York University with the class of 1880. He spent two years as consular clerk in Rome and as secretary of legation and chargé d'affaires ad interim, in Rio de Janeiro. He was a member of the law firm of Purrington & McConnell, and had been a director of the New York County Lawyers' Association. He was also secretary and trustee of the College of Dental and Oral Surgery. He wrote many law articles, and was the author of *Christian Science; an Exposition of Mrs. Eddy's Wonderful Discovery*. He was an adviser of President Grant, after the retirement from public life of the latter. Mr. Purrington was always closely associated with the revision and enforcement of the laws relating to medicine and dentistry, and collaborated with the late Dr. Allan McLane Hamilton in the latter's *System of Legal Medicine*.

Quackenbos, John Duncan.

Kaker, John Edward. Representative in Congress from California, died Jan. 22. He was born in Knoxville, Ill., Feb. 22, 1863, and was educated at the State Normal School, San Jose, Calif. He was admitted to the bar in 1885, and practiced at Alturas, Calif., from 1886 onward. He became district attorney of Modoc County, holding the post from 1895 to 1898. From 1905 to 1910, he was a judge of the Superior Court. He was a member of the 62nd Congress (1911-13), representing the 1st California District, and was also a member of the 63rd to 68th Congresses (1913-25), representing the 2nd California District.

Ramsay, Franklin Pierce.

Rawlinson, John Frederick Peel. Senior member of the British Parliament for Cambridge University, died in January. He was born Dec. 21, 1860, and was educated at Eton and at Trinity College, Cambridge. He gained the degrees of LL.B. and LL.M. at Cambridge, and in 1884 became a barrister of the Inner Temple. He was for some time lecturer and examiner in law at Pembroke College, Cambridge, and represented the British Treasury in the commission of inquiry into the South African Jameson Raid of 1896. From 1898 he was recorder of Cambridge, and was for a long time a member of the governing bodies of Eton and Malvern and of Brighton College. In 1906 he was elected to Parliament for the Cambridge University constituency. He was also vice-chairman of the general council of the bar, and in 1923 he was made a privy councillor.

Raymond, William Galt.

Read, Charles O. American manufacturer, died at Pawtucket, R. I., July 7. He was born at Norton, Mass., Dec. 31, 1846, and was educated in Pawtucket schools. In 1863 he entered the employ of the Sayles Finishing Plants, of which he later became president. He was director or trustee of many other industrial and financial organizations.

Reese, Robert Grigg. American physician and ophthalmologist, died Oct. 18, in New York. He was born in 1865, in Dinwiddie County, Va. He graduated from the New York University Medical School in 1891, began practice in New York, and later became professor in the Cornell Medical School of New York. Dr. Reese was a fellow of the American Medical Association, and of the American College of Surgeons. He was also a member of the American Academy of Ophthalmologists and the Medical Association of New York. He had long been associated with the New York Eye and Ear Infirmary, The Reconstruction, and other hospitals.

Reid, James Smith.

Ressler, Edwin DeVore.

Rhead, Louis.

Rhinock, Joseph Lafayette. American theatrical financier and former congressman from Kentucky, died at New Rochelle, N. Y., Sept. 20. He was born at Owenton, Ky., Jan. 4, 1863, and as a young man moved to Covington, Ky., where he remained for the greater part of his life, serving for seven years as mayor of the city. His first important business venture was in connection with oil refining, but later he took up other enterprises, of which his theatre interests soon became the chief. In 1904 he became associated with Lee and J. J. Shubert. For some time he was vice-president of the Shubert Theatrical Co., and later secretary and treasurer. From 1905 to 1911 he represented the 6th Kentucky District in Congress. At the time of his death, Mr. Rhinock was a director of the Shubert Theatre Corporation, and also vice-president of Loew's theatrical enterprises, and director and stockholder in other undertakings. Besides these activities, his racing interests were many, including holdings in Fairmount Park, St. Louis, of which he

was an organizer, as well as in several tracks in Maryland.

Rich, John T.

Ridgeway, Sir William.

Rilke, Rainer Maria. Czech-German lyric poet, died in Montreux, Switzerland, December 30. He was born in Prague in 1875, spent his early life in Bohemia, going later to Russia and then to Paris. In 1914 he retired to a thirteenth-century monastery and immersed himself in study. His last book was published in 1923.

Ringling, Charles. American circus owner, died at Sarasota, Fla., Dec. 3. He was born in 1864 at McGregor, Ia., and while still a child was taken by his parents to live at Baraboo, Wis. Charles was one of the famous "six brothers of Baraboo" who started, about 1881, a circus on a very small scale. They all trained themselves to do jobs of the circus type and gradually increased the attractiveness of their show, until, in 1888, it was ready to go on the road. Two years later it occupied thirty cars on the railroad and was ready to compete with the Barnum and Bailey enterprise. Some time before his death, James A. Bailey agreed to a division of territory, and sold to Ringling Bros. a half interest in his Forepaugh-Sells circus. In 1906, after the death of Mr. Bailey, the Ringlings took over the rest of the Forepaugh-Sells property, and by the end of 1907 they had purchased from Mrs. Bailey the entire Barnum and Bailey circus, at a cost of \$410,000. Mr. Ringling established a winter home in Florida about 1912, and since that time had been prominently identified with the development of the west coast section of the state. He was also president of the Ringling Bank and Trust Co., of the Sarasota Chamber of Commerce and the Charles Ringling Company.

Rivers, William Pitt. American dancing master, died at Lakeport, N. H., Oct. 2. He was born in 1863, in Brooklyn, N. Y., and spent most of his life there. He followed his father's calling and began teaching dancing while still in his teens. His father was of the highly conservative school, and objected to the introduction of such an innovation as the six-step waltz. The son, however, decided in the face of his father's opposition to sponsor the newer dances, and made such a success of his rival establishment that the American Society of Dancing Masters asked for a demonstration and afterward elected the 16-year-old instructor to membership. He became a well known figure in the social life of Brooklyn and New York.

Robb, Thomas. Secretary of the Shipping Federation of Canada, died Nov. 8, in Montreal. He was born in 1863 in Glasgow, and was educated at the Glasgow Academy. He began his career with the State Steamship Co., and later joined the Albion Co. in the New Zealand and Tasmanian trade. During the World War he was acting staff embarkation officer of Canada in the department of the quartermaster general. In 1917 he became chairman of the royal commission on pilotage, and in 1918 he was chairman of the royal commission on vessel traffic regulations and handling of explosives. He was also president of Radio Limited.

Rodgers, John.

Roebling, Washington Augustus.

Rogers, Henry Wade

Rohan, Herminie. Dowager Duchess de. Author and painter, died Apr. 13, at Paris, France. She was born July 28, 1853, in Paris, and was the widow of the Duc de Rohan, deputy of Morbihan, of a family claiming connection with the ancient sovereigns of Brittany. The duke died in 1914, and his son and successor, the twelfth duke, died of wounds received in the battles of Verdun and the Somme. The duchess was a member of the France-American Committee, the Society of Authors, the Society of French Poets and French Artists, and the Union of Women Painters and Sculptors. Soon after the World War began, the duchess converted her Paris house into a hospital, and for five years she was superintendent of the nursing staff caring for wounded soldiers. In recognition of her valuable services, the Cross of the Legion of Honor was awarded to her in 1920, and the decoration was taken to her by Marshal Foch himself.

Roshanara (Olive Craddock). Oriental dancer, died at Asheville, N. C., July 15. She was born Jan. 22, 1892, at Calcutta, India, and passed her childhood in that country. She received her professional training in India, afterwards studying in England, France, and Germany. She was the only European woman to have the privilege of dancing before Indian potentates. She appeared with the Philadelphia and Boston Symphony Orchestras, and later accompanied Pavlova on tour. She made her debut in England in William Asch's *Kismet*. When Winthrop Ames presented *The Green Goddess*, Roshanara assisted in the production. She had taught dancing at several schools.

Ross, Hugh Campbell.

Rossi, Auguste J.

Rothmühl, Nikolaus. German dramatic tenor, died in Berlin in June. He was born at Warsaw in 1857. After graduation from the Vienna Conservatory, he began his career at the Hof-opera there, then sang in Stuttgart and Dresden, finally becoming a member of the Royal Opera in Berlin. In 1895 he sang the Wagner rôle in Damrosch's operatic season at the Academy of Music in New York. He retired from the stage in 1907, and then lived in Berlin, well known as a teacher.

Rousmaniere, Edmund S. American clergyman, dean of St. Paul's Cathedral, Boston, Mass., died Sept. 26, at Hyannis, Mass. He was born Oct. 27, 1858, and graduated from Harvard in 1883. He was also a graduate of the Episcopal Theological School in Cambridge. Before going to Boston, he was rector of churches in Pontiac, R. I., New Bedford, Mass., and Providence, R. I. At the time of his death Dr. Rousmaniere had been dean of St. Paul's Cathedral for 14 years, from its consecration in 1912.

Roze, Marie-Hippolyte.

Russell, Charles Marion. American artist, died Oct. 25. He was born at St. Louis, Mo., Mar. 19, 1865. He received his education in the public schools. In 1880 he moved to Montana, and quickly made a reputation as a painter. He exhibited in London, New York, Chicago, San Francisco, Los Angeles, and in other cities.

Russell, Harold. British joint secretary to the Anglo-German mixed arbitral tribunal, died in August at Shere, Eng. He was born in England, Jan. 23, 1868, and was educated at Balliol College, Oxford. He was a fellow of the Linnean Society, a fellow of the Zoological Society, and a member of the British Ornithologists' Union. He was called to the bar in 1894, and for some years thereafter he served at midland sessions and was attached to the midland circuit. In 1915 he joined the Admiralty war staff, intelligence division, and in 1919 he was transferred to the foreign office, political intelligence department. He was made British joint secretary to the Anglo-German mixed tribunal appointed under Act 304 of the peace treaty of 1920. His writings include *Chalkstream and Moorland*, 1911, and *The Flea*, 1913.

Sackett, William Edgar.

Saint-Gaudens, Mrs. Augusta Homer. Widow of Augustus Saint-Gaudens, famous American sculptor, died at Cornish, N. H., July 7. She was born at Roxbury, Mass., May 17, 1848, and was a relative of Louise Homer, the opera singer. Since the death of her husband, Mrs. Saint-Gaudens maintained his studios at Cornish, N. H., at her own expense, and had gathered, in bronze and plaster copies, almost all his works. These, together with her estate, its furnishings and the studios, are bequeathed to the Augustus Saint-Gaudens Memorial, incorporated in 1919 by Mrs. Saint-Gaudens as a permanent memorial to her husband.

Sanders, Thomas W. Dean of British horticulture journalists, died Oct. 13. He was born in England in 1855 and was self-educated. He had a practical training in gardening and farming, and drew attention to himself by his extensive writings on these subjects. He was also well known for his authoritative articles on the breeding and management of domestic animals.

Sanderson, Lloyd Bowen. Shipping pioneer, died in New York, N. Y., Oct. 24. He was born in 1865, and with two of his brothers rapidly acquired interests in the shipping world. At the time of his death Mr. Sanderson with his two brothers had, combined, the largest shipping interest in the world. He was general manager of the Royal Mail and Pacific Steam Navigation Co., New York City, and senior partner in the firm of Sanderson & Son.

Sanderson, Oswald.

Sanford, Francis Hugh. British naval officer, died Feb. 16, at Wengen, Switzerland. He was born in England, Oct. 10, 1887, and was educated at Clifton College, Bristol, and at Balliol College, Oxford. He served at the Dardanelles in 1915, was severely wounded, mentioned in despatches, and awarded the D.S.O. He was promoted to the rank of commander and awarded the Croix de Guerre with palm in 1918, for services of distinguished gallantry in raids closing the harbors of Zeebrugge and Ostend. He was promoted to the rank of captain in 1924, and at the time of his death was assistant director of the plans division of the British naval staff.

Sanger, Joseph Prentice.

Sass, Charles. American banker, died in Berlin, Germany, Aug. 8, 1926. He was born in America in 1858, and was interested from his youth in the development of saving banks and allied institutions in the Middle Western States. He was a director of the Pioneer Trust Savings Co., of Dubuque, Ia., and at the time of his death was making a tour in Europe



for the purpose of studying financial and industrial conditions.

Sattler, Eric E. American oculist and medical writer, died July 5, at Cincinnati, Ohio. He was born at Cincinnati, Nov. 4, 1859, and graduated from Woodward High School, Cincinnati, in 1878. He took his diploma at Miami Medical College in 1882. Later he studied at the Universities of Strassburg, Vienna, Berlin, London, Utrecht, and at New York University. He was the first to call attention to nerve endings in the cornea and corneal epithelium. He also published a *History of Tuberculosis* (1888).

Schirmer, Frederick.

Schmid, Henry Ernest. Physician and scientist, died at White Plains, N. Y., Oct. 11. He was born May 1, 1834, at Querfort, Prussian Saxony. He became interpreter and surgeon on a British flagship engaged in making coast surveys in the Indian Ocean and Chinese waters. In this capacity he visited Borneo, Java, Sumatra, northern China and Korea. He organized the first modern hospital in Japan. He finally settled in the United States, and began to practice in White Plains, N. Y., in 1863.

Schultz-Adasievsky, Ella von.

Schuyler, Louisa Lee.

Schwan, Theodore.

Schwarz, Joseph.

Scott, William R.

Scripps, Edward Wyllis.

Seely, Sir Charles Hilton, Baronet. English colliery owner, died at Sherwood Lodge, Eng., Feb. 26. He was born July 7, 1859, and was educated at Harrow and at Trinity College, Cambridge. He sat as M.P. for Lincoln, 1895-1906, and in 1900-1908 was lieutenant colonel and honorary colonel of the 5th Battalion of the Hampshire Regiment. In 1915, on the death of his father, he succeeded to the title which had been created for his father in 1896. He was elected Liberal representative for the Mansfield division of Nottinghamshire, and sat from 1916 to 1918.

Shedd, John G. American financier and merchant, died at Chicago, Ill., Oct. 22. He was born July 20, 1850, at Alstead, N. H. About 1872 he went to Chicago and entered the employ of Marshall Field. He rose to be president of Marshall Field & Co. In 1923 he resigned the presidency of the company in order to become chairman. At different times Mr. Shedd served on the directorates of the Illinois Central, the Baltimore & Ohio, and the Rock Island R. Rs., as well as on those of several Chicago banking institutions.

Sherman, Richard W. American civil engineer and former mayor of Utica, N. Y., died at that city, May 23. He was born at Utica, Dec. 4, 1848, and in 1866 he was one of the engineering staff engaged in the construction of the Binghamton, Chenango & Susquehanna Valley R. R., now a part of the Delaware, Lackawanna & Western system. From this beginning he went on to help in the construction of roads now forming part of the Ontario & Western system. With his partner, Dr. Emmet Flagler, he erected waterworks at Watervliet, Green Island, Gloversville, Walton, and Richfield Springs. In 1880 Mr. Sherman constructed waterworks at Greenwich, Conn., and later organized the Troy Public Works Co. He was twice mayor of Utica and was once considered by the Democrats as a candidate for Governor. He was a member of the American Society of Civil Engineers.

Sherman, Stuart Pratt.

Sherry, Louis.

Shorwell, Guillermo Antonio.

Shorter, Clement K.

Shradhanand, Swami (Munshi Ram).

Sibley, Joseph Crocker.

Simon, Henri.

Simpson, Sutherland. Anglo-American physiologist, died Mar. 9. He was born in the Orkney Islands, Scotland, Feb. 3, 1863, and was educated at the Herriot-Watt College, Edinburgh, 1882-85. He received the degree of B.Sc. from the University of Edinburgh in 1894, and bachelor of medicine and bachelor of surgery in 1899. He won the degree of doctor of medicine, together with the gold medal in medicine at Edinburgh in 1901, and graduated as D.Sc. two years later. In 1908 he was appointed professor and head of the department of physiology and biochemistry at Cornell University, and he continued to hold this position until his death. He was a fellow of the Royal Society of Edinburgh, a member of the British Association for the Advancement of Science, a member of the British Medical Association, of the American Physiological Society, and of the Society of Experimental Biology and Medicine. He was the author of many original research papers on the central nervous system, on animal heat and body temperature, on the secretory glands, and on bile secretion.

Singmaster, John Alden.

Sistermanns, Anton.

Skinner, Henry. American physician and entomologist, died May 30. He was born at Philadelphia, Pa., Mar. 27, 1861, and was educated at the University of Pennsylvania, where he took his B.S. degree in 1881 and his M.D. in 1884. He received the degree of doctor of science from the University of Pittsburgh. He was at one time State entomologist of Pennsylvania, and was professor of entomology for the Pennsylvania Horticultural Society. He was in charge of the entomological department and chairman of the publications committee of the Academy of Natural Sciences of Philadelphia, of the council of which body he was also a member. He later became vice-president of that academy, and in 1909 he was president of the American Entomological Society. He was a member of the American Philosophical Society, and in 1925 of the permanent committee of the International Entomological Congress. From 1890 to 1911, he was editor of the *Entomological News*, and wrote much to forward a better understanding of the science, in addition to making valuable original researches.

Small, Albion Woodbury.

Smillie, Mrs. George Henry. American painter, died July 31. She was born Sept. 14, 1854, and studied under Joseph O. Eaton and James D. Smillie. Although competent in oils, her best work was done in water colors. She was a member of the American Water Color Society.

Smith, Allen John. American pathologist and scientific writer, died Aug. 19. He was born at York, Pa., Dec. 8, 1863, and took his A.B. at the Pennsylvania College in 1883, and his A.M. in 1886. In 1886 he received an M.D. from the University of Pennsylvania. From 1887 to 1891 he was assistant demonstrator of pathology at the University of Pennsylvania, and from 1891 to 1903, he was professor of pathology in the medical department of the University of Texas. He then returned to the University of Pennsylvania, where, from 1903 to 1910 he was professor of pathology. In 1910 he received the degree of Sc.D. from Pennsylvania College, and in the same year he became professor of comparative pathology and director of courses in tropical medicine at the University of Pennsylvania. In this post he remained until his death, receiving in 1921, the LL.D. degree from Pennsylvania State College, and in 1911, the same honor from McGill University. In 1917 he was command major, M.R.C., U.S.A., becoming lieutenant colonel in 1919. He was a member of many scientific societies, and the author of *Lessons and Laboratory Exercises in Bacteriology*, 1902.

Smith, Edmund Monroe.

Smith, Ernest Ashton.

Smith, Merritt Haviland.

Smith, Oberlin.

Smith, Sidney Irving.

Soulé, George. American educator, died Jan. 26. He was born at Barrington, N. Y., May 14, 1834, and graduated from the Sycamore Academy, Illinois, in 1853. He studied law and the business sciences at St. Louis, Mo., 1854-56. In 1856 he founded, and became first president of, the Soule Commercial College and Literary Institute, at New Orleans. He was a lieutenant colonel in the Confederate States Army, and at one time president of the Business Educator's Association of America. He was also at one time vice-president of the American Unitarian Association, and in 1918 he received the honorary degree of LL.D. from Tulane University. He was the author of many arithmetical and business manuals, including *A Manual of Auditing*, 1892; *Partnership Settlements*, 1893; and his *Practical Mathematics* was issued in its tenth edition in 1924.

Spender, E. Harold.

Sperry, Watson Robertson. American newspaper man and editor, died Feb. 13. He was born at Saquoit, N. Y., June 25, 1842. At 21 years he had become editorial writer for the *Otsego Republican* of Cooperstown, N. Y. He took an A.B. degree at Yale in 1871, in which year he joined the staff of the *New York Evening Post*. From 1875 to 1881 he was managing editor of this journal, and from 1882 to 1900 he was proprietor and editor of the *Wilmington, Del., News*. From 1892 to 1893 he was United States minister-resident to Persia. From 1901 he was connected with the *Hartford Courant*.

Spillman, Baldwin D. American soldier, died Nov. 17, at Washington, D. C. He was born in 1853, and after graduating from West Point and service in the West, he severed his connection with the Army. During the Spanish-American War, however, he was commissioned to command the West Virginia volunteers, but at the conclusion of hostilities he again retired.

Spreckels, John Diedrich.

Squire, Watson Carvoso.

Stanley, John J. American street railway executive, died Oct. 4, at Cleveland, Ohio. He was born at Cleveland in 1863, and was educated at the public schools there. In 1885 he first became associated with

the street railways of Cleveland, and continued, in various capacities, to preside over their development and extension until the time of his death. He was also a director of several banking institutions and trust companies, as well as a former president of the American Electrical Railway Association.

Stark, Otto. American artist, died at Indianapolis, Ind., Apr. 14. He was born at Indianapolis, Jan. 29, 1859. After studying at the Cincinnati School of Art and at the Art Students' League in New York, he went to Paris and continued his work at the Académie Julien. In 1892 Mr. Stark returned to his native city and became head of the art department of the Manual Training High School, and instructor in composition at the John Herron Art Institute. Mr. Stark twice exhibited at the Paris Salon, and held many exhibitions of his work in the United States.

Stedman, Henry Rust.

Steele, Theodore Clement. American artist, died at Bloomington, Ind., July 24. He was born in Owen County, Ind., Sept. 22, 1847, and studied art at Munich under Profs. Bentzue and Loeffitz, 1880-85. He held exhibitions of his work at the Paris and St. Louis expositions, and was a member of the Boston Art Club, as well as president of the Society of Western Artists. Pictures of his hang in the museums at St. Louis, Cincinnati, and Indianapolis, and at the Boston Art Club.

Sterling, John. British soldier, died in London, Eng., Dec. 7. He was born in England in 1840, and began his military career with the Liverpool Royal Regiment. At a later date he was transferred to the Coldstream Guards, with which force he served in the Sudan and elsewhere. He attained the rank of major general in 1896, and is chiefly remembered for his part in two irregular military adventures. He accompanied an expedition against Ferdinand VII of Spain, which ended disastrously. The second adventure was an attempt to rescue General Gordon from Khartoum. He retired in 1901.

Stevens, Frederick Weir. American financier, died at Grand Rapids, Mich., Nov. 2. He was born at Clinton, Mich., in 1865, and he took his law degree at the University of Michigan in 1887. From 1900 to 1909 he was general counsel of the Pere Marquette R. R., and in the latter year he became an associate of J. P. Morgan & Co. He was later a representative of an American group of bankers in the international consortium for China. In 1923 he received an LL.D. from the University of Michigan.

Stevens, George Washington. American art authority, died at Toledo, Ohio Oct. 28. He was born at Utica, N. Y., Jan. 16, 1866, and began his career as a newspaper man. He was later appointed director of the Toledo Museum of Art and made frequent trips to Europe on its behalf. He was at one time vice-president of the Faculty of Arts, London, and was a member of the National Institute of Social Sciences. Since 1919 he had been president of the National Association of Museum Directors.

Stevenson of Holmby, Baron.

Stewart, John Aiken.

Stocking, William Alonzo.

Stockman, Sir Stewart.

Stone, Galen L.

Storrow, James J.

Strathcona and Mount Royal, Baroness. Canadian baroness, died in London Eng., Aug. 18. She was born Jan. 17, 1854, and was christened Margaret Charlotte Smith. She inherited a very large fortune from her father, Lord Strathcona (Sir Donald Alexander Smith), who amassed his wealth through his connection with the Hudson Bay Co. and with the Canadian Pacific Ry. He received his baronetcy when High Commissioner of Canada. Lady Strathcona, who was Mrs. Margaret Charlotte Howard of Mount Royal, Que., succeeded to the barony on the death of her father in 1914. She had been married in 1888 to R. J. Bliss Howard, fellow of the Royal College of Surgeons; he died in 1921. In 1924 she gave \$120,000 to McGill University in Montreal for permanent endowment of the department of zoology.

Straus, Oscar Solomon.

Suter, Hermann. Swiss composer and conductor, died at Basle, June 22. He was born at Kaiserstuhl, Apr. 28, 1870. From 1892-1902 he lived in Zurich, as organist and conductor of various singing societies. He then settled in Basle, where he conducted the symphony concerts of the Allgemeine Musikgesellschaft and the two principal choral societies. He wrote two symphonies, a symphonic poem with chorus, *Die Walpurgisnacht*, chamber music and numerous choruses a capella for male and mixed voices.

Svecenski, Louis.

Taylor, William Henry. American jurist, died Mar. 28. He was born at Wheelock, Vt., July 18, 1863, and took a B.S. degree at Dartmouth College in 1886. From 1889 to 1891 he was supervisor of schools in

Caledonia County, Vt., and was admitted to the Vermont bar in 1892. From 1894 to 1898 he was state's attorney for Caledonia County, and in 1900 he became a member of the Vermont House of Representatives, being elected to the Senate in 1906. He became a judge of the Superior Court of Vermont, and held office from 1906 to 1913. He was appointed Justice of the Vermont Supreme Court on Oct. 1, 1913, being elected for the terms 1915-1925.

Tefft, Lyman Beecher. American educator and clergyman, died at Cranston, R. I., Nov. 29. He was born in 1833. In 1860 he graduated from the Rochester Theological Seminary, and held pastorates in Prescott, Wis., Winona, Minn., and Norwich, Conn. He wrote several books, including *Institutes of Moral Philosophy*. Theodorini, Helena.

Thompson, J. W. American evangelist, died at Cedar Rapids, Ia., July 1. He was born at Athens, Tenn., in 1838, and graduated from Burlington College, Iowa, later becoming a Bible teacher at the Moody Institute at Chicago. Still later he was more closely associated with Dwight L. Moody in his evangelical campaign, and on Moody's death he continued his work in the evangelical field. He was well known for his religious poetry and hymns, as well as for various writings on religious topics.

Thysen, August.

Todd, Sir Joseph White. British director of Argentine railways, died Feb. 19. He was born June 23, 1846, in Stirlingshire, Scotland. He was privately educated, and resided for several years in Havana, Cuba. He was a merchant banker, but retired from this business comparatively early in life (1885), and interested himself in railways. He became deputy chairman of the Callander and Oban Ry., Scotland, and, later, chairman of the Central Argentine Ry. and Director of the Buenos Aires Western Ry. Sir Joseph was the first baronet, the title having been created in 1913. He had also been decorated with the Grand Cross of the Spanish Order of Merit.

Tonjoroff, Suetozar (Ivanoff). American newspaper man, died June 11. He was born at Bansko, Macedonia, July 4, 1870, of Bulgarian parents. In 1888 he went to the United States and studied at the Worcester, Mass., High School, Phillips-Exeter Academy, and Harvard College. From 1897 to 1901 he was night editor of the *Boston Advertiser*, and from 1901 to 1906 he served in the same capacity with the *New York Press*. From 1906 to 1912 he was news editor of the *Providence Journal*, returning to the *New York Press* 1912-14. In 1914 he was associate editor of *Munsey's Magazine*, and from 1915 to 1920 was editorial writer for the *New York Evening Mail*. From 1921 until his death he had been a feature writer of the *New York Evening World*.

Tonking, Henry Charles. British organist, died at Glasgow, in July. He was born at Camborne Eng., Jan. 17, 1863. At an early age he appeared as a violin prodigy, but after study at the Royal Academy of Music he devoted himself to the organ. He held several important positions, the last being at the Wesleyan Church at Newquay. He was one of the most famous recitalists in England. His compositions consist of organ music and various songs.

Topakyan, Hagazoune Hohannes.

Torlonia, Prince Augusto.

Toselli, Enrico.

Touche, Cardinal.

Townley, Clarence Page.

Trask, John D. E. American art authority, died at Philadelphia, Pa., Apr. 16. He was born in Brooklyn in 1871, and was educated at St. Austin's School, New Brighton, N. Y. He then engaged in newspaper work and magazine writing, but in 1894 he went to Philadelphia as assistant secretary of the Pennsylvania Academy of Fine Arts. In 1905 he became secretary of that institution, and in 1910 was United States commissioner general to the International Fine Arts Expositions in Buenos Aires, Argentina, and Santiago, Chile. He resigned from the academy to serve as director of fine arts for the Panama Pacific Exposition of 1915, in San Francisco. As Director of Fine Arts for the Sesqui-Centennial Exposition in Philadelphia, Mr. Trask made the plans for the palace of art there. He had been also director of the Milwaukee Art Institute.

Treat, Charles Payson. American railroad builder, died Jan. 27. He was born at Talmadge, Ohio, Feb. 17, 1847, and took his A.B. degree at Oberlin College in 1870. It is estimated that he built more than 1500 miles of railroad in the United States and Canada. He was one of the promoters of the Nicaraguan Canal, and began its actual construction. In 1890 he built a railway across the swamps at Greytown, Nicaragua.

Trimble, Walter. American bank president, died Sept. 18, at Hewlett, N. Y. He was born in New York in 1857, and graduated from Harvard in 1879. His grandfather and his father had held the presi-



dency of the Bank for Savings, New York City, the first savings bank organized in New York State, and Mr. Trimble succeeded his father in 1907. He had been a trustee of the bank for 23 years.

Troubridge, Sir Ernest Charles Thomas. British naval officer, died at Biarritz Jan. 28. He was born July 15, 1862. From 1901 to 1904 he was naval attaché at Vienna, Madrid and Tokyo. For the period 1907-08 he was captain and chief of staff in the Mediterranean, and in 1911-12 he was chief of the war staff at the Admiralty. In 1912 he was commander of the Mediterranean cruiser squadron, and in 1915 he was the head of the British naval mission to Serbia. In 1918 he was appointed admiral commanding on the Danube, being gazetted admiral in the following year. In 1921 he was placed on the retired list, although he served through to the period 1919-1924 as president of the international commission of the Danube. In 1904 he received the M.V.O. and C.M.G. honors from the King, and in 1911 he became a Commander of the Bath. He was knighted in 1919, becoming a Knight Commander of the Order of St. Michael and St. George.

Tuck, Sir Adolph.

Tucker, William Jewett.

Tyler, James M. American jurist, died at Brattleboro, Vt., Oct. 13. He was born in 1835, at Wilmington, Vt., and studied at the Brattleboro Academy. He continued the study of law at the Albany Law School, graduating in 1860. In 1863 he was elected to the Vermont General Assembly, where he served two terms, later being elected District Attorney of Windham County. For some time he practiced law, and, was then elected to Congress, where he served two terms. He was a justice of the Supreme Court Bench of Vermont from 1887 to 1908.

Uhler, George S. Former supervising inspector general U. S. Steamboat Inspection Service, died in Washington, August 23, 1926. He was born in 1853 and spent part of his early life at sea. He had been chief engineer of the Morgan Line, and after that president of the Marine Engineers' Beneficial Association. In January, 1903, he became supervising inspector general of the United States Steamboat Inspection Service, and was American delegate to the International Conference on the Safety of Life at Sea held at London in 1923. He resigned from the U. S. Steamboat Inspection Service in 1925.

Valentino, Rydolph.

Valera y Delavay, Luis, Marquis de Villasinda.

Valentine, Benjamin Benton. American author and dramatist, died in New York, N. Y., Mar. 30. He was born in London, Eng., Sept. 7, 1843, and was educated at King Edward VI's School at Birmingham. For some time he was in Australia. He went to the United States in 1871. Shortly after, he was founder of *Puck*, which periodical he edited from 1877 to 1884. From 1886 to 1888 he was managing editor of the *Bachelor Newspaper Syndicate*, and from 1891 to 1898 he was a member of the editorial staff and dramatic critic of the *New York Herald*. He was the author of *Fitznoodle Papers* and *Fitznoodle in America*, and among his plays were: *A Southern Romance*, *In Paradise*, *Fritz in New York*, *Fitznoodle*, *The Locksmith of Paris*, and *The King of the World*. He also translated, into English, Zola's drama, *Rénée* (under the name *Madame Saccard*), and Daudet's *Sapho*.

Van Groningen, Steven. Dutch pianist and composer, died in Leyden, in March. He was born at Deventer, June 23, 1851. On the advice of Rubinstein he gave up the profession of engineering and completed his musical studies under Liszt. After several years of concerts in Europe, he lived some time at The Hague as conductor of choral societies. From 1894 until his death he was director of the music school at Leyden. He wrote chamber music and numerous compositions for the piano.

Van Sickle, James Hixon. American educator, died Feb. 12. He was born at South Livonia, N. Y., Oct. 24, 1852, and graduated from New York State Normal College, Albany, 1873. He was a student at Williams College in 1876-77, and then became a teacher in village schools, becoming later principal of the city school at Denver, Colo. He was Superintendent of the north side schools in Denver, 1890-1900. He received the degree of A.B. from the University of Colorado in 1896, and A.M. in 1898. He was superintendent of public instruction of Baltimore, 1900-1911. Williams University conferred an honorary A.M. upon him in 1913. From 1911 to 1923 he was Superintendent of Schools, Springfield, Mass., and in 1923 he resigned. He was the editor of the *Riverbide Readers* and *Pdot Arithmetics*.

Van Zandt, Clarence D. Mayor of Rochester, N. Y., died June 17. He was born at Rochester, Mar. 21, 1858, and was educated at public and private schools there. He began his business career with the Paine Drug Co., of Rochester, in 1868, and in 1910 he became president and treasurer. This post he held at the

time of his death. He was elected mayor of Rochester in 1921.

Verrill, Addison Emery.

Villalobar, Marquis de.

Vogt, Augustus Stephen.

Von Wangenheim, Baron Conrad. German agricultural expert, died June 10, in Berlin. He was born Sept. 17, 1849, and served throughout the Franco-Prussian War. He then took over the family estate at Klein Spiegel and Rahnwerder for agricultural experimentation, at the same time becoming a member of the Prussian Forestry Commission and of the Chamber of Agriculture of Pomerania. He took an active part in the work of the Prussian agricultural committee of the German Agricultural Council. He was for many years a member of the Reichstag and the Prussian Diet, becoming Nationalist leader before his death. He rendered great service to his country as President of the Agrarian League.

Vroom, Peter Dumont. American soldier, died Mar. 18. He was born at Trenton, N. J., Apr. 13, 1842, and became a C.E., at the Hensseler Polytechnic Institute, in 1862. In the same year he became first lieutenant in the 1st New Jersey Infantry, resigning in September of the following year. Joining the Army again before the end of 1863, he was promoted to major in the 2nd New Jersey Cavalry, being breveted colonel in 1865. In the same year he was mustered out with honors. In 1866 he was appointed a 2nd lieutenant, U. S. Cavalry, becoming captain ten years later. In 1903 he reached the rank of brigadier general with the assignment of inspector general, and later in the same year he was retired at his own request, after forty years' service. He was a member of the Order of the Cincinnati, the Loyal Legion, and the Sons of the Revolution.

Wadhams, Frederick Eugene. American lawyer, died at Albany, N. Y., Sept. 5. He was born at Wadhams, N. Y., Sept. 27, 1848, and studied at Cornell University, 1869-1871. He received an LL.B. degree from the Albany Law School (Union University) in 1876, and in the same year was admitted to the New York bar. From 1899 to 1922 he was secretary of the New York State Bar Association, and for many years he was secretary of the board of statutory consolidation of New York. In 1902 he was appointed treasurer of the American Bar Association, in which office he was serving at his death. Mr. Wadhams was made an honorary member of the Canadian Bar Association, a week before his death.

Wadsworth, James Wolcott.

Wainright, Richard.

Waldo, Clarence Abiathar.

Walker, Roberts. American lawyer, died at Scarsdale, N. Y., Dec. 22. He was born Aug. 24, 1874, at Rutland, Vt., and studied at the University School, Chicago. He graduated from Amherst College, 1896, and from Columbia University Law School, 1899, after which he engaged in general practice. In 1904 he became assistant to the counsel of the Rock Island Lines. In Jan., 1910, he was made general counsel of the system and chairman of the executive committee. Until a short time before his death, Mr. Walker served as chairman of the Pueblo Indians Land Board. He had also served as president and director of the Rock Island Co., of the Chicago, Rock Island and Pacific R. R., of Iowa, and as an official of other railroad, mining, steel, traction and improvement companies.

Walkley, Arthur Bingham.

Waller, Littleton Walter Tazewell.

Ward, Mrs. A. Montgomery. American philanthropist, died at Chicago, Ill., July 26. She was born in 1856 at Kalamazoo, Mich. The fortune left to Mrs. Ward on the death of her husband, founder of Montgomery Ward & Co., was the basis of her many philanthropies, and she turned her attention particularly to the development of educational institutions. She gave nearly \$8,000,000 to the Northwestern University. The first gift was made in 1923 for a medical and dental school to be known as the Montgomery Ward Memorial, on McKinlock Campus. In Jan. of the following year she added \$1,000,000 to the \$3,000,000 already given, and in May, 1926, she announced an additional gift of \$4,000,000 to the school.

Ward, Thomas Humphry.

Waters, Philip Melancthon. American clergyman and educator, died at New York, N. Y., Mar. 30. He was born in 1861 and graduated at Amherst in 1882. From 1897 to 1900 he was pastor of Grace Methodist Episcopal Church, New York, and superintendent of the New York district of the church from 1905 to 1911, after which he became pastor of the Washington Square Methodist Episcopal Church. On leaving this church he was appointed president of Gammon Theological Seminary, Atlanta, Ga. Here he remained for 11 years, retiring about six months before his death. He was the author of a *Life of Peter Cartwright*.

Watta, Sir Philip.

Webb, William Robert. American educator and senator, died Dec. 19. He was born at Mount Tizah, N. C., Nov. 11, 1842. He was educated at Bingham School, Oaks, N. C., 1856-1860, and entered the University of North Carolina, July, 1860. He served in the Confederate States Army, and took part in the last fight, Apr. 3, 1865. In 1868 he was graduated from the University of North Carolina, taking an A.M. in 1869. He was appointed to the United States Senate for three months in 1913, to serve out the unexpired term of Senator Robert L. Taylor.

Webb, William Seward.

Weekley, William Marion.

Weeks, John Wingate.

Weir, John Ferguson.

Welker, Philip A.

Wellington, Charles E.

Wheeler, Thomas H. American oil executive, died near Alexandria Bay, N. Y., Sept. 15. He was born at Phelps, N. Y., July 3, 1844. Immediately on Lincoln's first call for troops he enlisted in the 23rd New York Infantry, though not yet 17. Wounded in the first battle of Bull Run, he was captured and sent to Libby Prison, and thence transferred to Tuscaloosa, Ala. He was exchanged and took part in some of the later battles of the war. Soon after the cessation of hostilities, Mr. Wheeler went to the Pennsylvania oil fields, and he came into contact with John D. Rockefeller and other leading oil men of the day. In 1873 he began his long service with the Standard Oil Co., as head of the cooperage department at Cleveland. From 1887 to 1894 he was president of the Oswego Manufacturing Co., a Standard Oil concern, and for the next 19 years he was purchasing agent for the company. He retired from business in 1913.

Whitehead, Charles Nelson.

Whitman, John L. American penologist, died at Chicago, Ill., Dec. 13. He was born in 1862, and began his career as a penologist in 1896, becoming a guard in the Cook County jail in Chicago. After serving as superintendent of the house of correction for 10 years, and then as state superintendent of prisons, he was made warden at the Joliet Penitentiary in 1922. He made many experiments in the treatment of prisoners, and advocated many reforms.

Wickwire, Theodore H. American steel manufacturer, died at Buffalo, N. Y., Aug. 29. He was born in 1851, and early became a member of the firm of Wickwire Bros. In 1907 he organized the Wickwire Steel Co., of Buffalo, which was subsequently merged with another company and is now known as the Wickwire-Spencer Corporation. Mr. Wickwire was chairman of the board of directors.

Wiedfeldt, Otto.

Wilcox, Marion.

Wilfey, Lebbeus Redman.

Willcocks, Sir James.

Williams, John Skelton.

Willits, Albert Bower. Rear Admiral, U.S.N., retired, died at Philadelphia, Pa., Jan. 7. He was born at Philadelphia, Mar. 7, 1851, and graduated from the Naval Academy in 1874. He was commissioned assistant engineer in 1878, and rose through successive grades until in 1908 he became captain. He was senior inspector during the building of the battleships *Utah* and *Arkansas*. At the end of this work he was made rear admiral, and was director of the navy yards, 1911-12. In 1913 he retired.

Wood, Charles.

Wood, Francis Derwent.

Wood, William Madison.

Wright, Theodore Lyman. American classical scholar, died at Beloit, Wis., Oct. 4. He was born in 1858, at Beloit, and graduated from the college there in 1880. Later he studied at Harvard and at the American School of Classical Studies in Athens, Greece. In 1888 he was appointed professor of Greek at Beloit College, Wis., and remained in this position till his death.

Wyman, Bruce. American lawyer, died at Waban, Mass., June 21. He was born June 15, 1876, at Hyde Park, Mass. In 1900 he began to practice law in Boston, and from 1901 to 1914 he was professor of law, Harvard University. He was counsel for the National Civic Federation, 1911-1913, and in 1912 was investigator for the directors of the port of Boston. From 1917 onward he was professor of law at the Portia Law School, and throughout his life he specialized in the law regarding transportation and public utilities. He was frequently called upon by distant authorities as a consulting counsel. He was the author of *Restraint of Trade* (1902); *Mortgage Securities* (1903); *Railroad Rate Regulation* (1906, 2nd edn. 1915); *Public Utilities* (1909); *Control of the Market* (1911); and *Public Service Corporations* (1911).

Ximenes, Ettore. Italian sculptor, died in Rome, Italy, Dec. 31. He was born in 1855, and is represented by his paintings or his works of sculpture

in various South American capitals and in Russia, as well as in the principal cities of Italy. He was for twenty years art director of *Illustrazione*, and was commissioner of arts in the department of public instruction. He made a statue of President Taft. Ximenes designed the statue of Verazzano, the Italian navigator, Battery Park, New York City.

Yi (Syek), Prince.

Yoshihito, Harunomiya.

Young, Charles G. Former president of the C. G. Young Engineering Co., died at San Juan, Porto Rico, June 16. He was born Nov. 1, 1866, at Bath, N. Y., and at the age of 20 he began to work for the Schuyler Electric and Manufacturing Co., Hartford, Conn. He became general superintendent of the Mount Morris Electric Co. of New York. During the World War he was an executive member of the war service committee of the typewriter industry. Most of his work was in connection with the planning, consolidation, and financing of public utilities, work which took him to all parts of the world. He was a member of the New York Electric Society, a fellow of the American Institute of Electrical Engineers, a member of the American Society of Civil Engineers, and of the Pan-American Chamber of Commerce.

Young, Lafayette. American editor and politician, died at Des Moines, Ia., Nov. 15. He was born May 10, 1848, at Eddyville, Ia. At the age of 15, he became a printer apprentice in Albion, Ia. Later he went to St. Louis as a journeyman printer. He founded the *Atlantic Telegraph*, Atlantic, Ia., and in 1890 became owner and publisher of the *Des Moines Capital*. During the Spanish-American War Mr. Young was a newspaper correspondent with Shafter's army in Cuba, and later he was a member of the Taft mission to the Philippines. On the death of Jonathan P. Dolliver, in 1910, Mr. Young was appointed United States Senator, serving until 1911. In 1913 he was a correspondent in the Balkan War, and in 1915 he spent four months in Europe as war correspondent, suffering imprisonment at the hands of the Germans and receiving from the King of the Belgians, after the armistice, the Order of Leopold II. He served in the State senate 12 years.

Young, Rida Johnson.

Zajac, Florian. A celebrated Bohemian violinist, died in Berlin, May 17. He was born at Unhoscht, May 4, 1853, and studied under Mildner and Bennewitz at the Prague Conservatory. He began his career as a violinist in the Augsburg opera, was called as concertmaster to Mannheim and, in 1881, went in the same capacity to Strassburg. In 1891 he settled in Berlin, succeeding Sauret as violin professor at Stern's Conservatory. With Heinrich Grunfeld he gave annual chamber music recitals which became famous.

Zangwill, Israel.

Zevin, Israel J. Jewish editor, died at Brooklyn, N. Y., Oct. 6. He was born in 1872, at Harki, Russia, and went to New York in 1889. He worked for a time on the *New York Herald*, but in 1891 he joined the staff of the *Jewish Daily News* and was managing editor at the time of his death. Most of his writings appeared under his pen name, "Tas'arak." Among his books *The Sholen the Shoden*, and *Joe the Waxter*. Shortly before his death he had completed a translation of the Talmud into Yiddish.

**NEGRI SEMBILAN**, nā'grē sem'belān'. A federation of nine divisions, constituting a state in the Federated Malay States (q.v.).

**NEJD, SULTANATE OF**. See ARABIA.

**NELSON, ROBERT WICKHAM**. American newspaper man and manufacturer, died at Westfield, N. J., on July 28. He was born at Granville, N. Y., Sept. 20, 1851, and in 1877 he entered the newspaper business at Braidwood, Will County, Ill. In 1880 he formed the partnership of Nelson, Ferriss and Company, and established the *Joliet Daily News*, a name later changed to *Herald News*. Mr. Nelson established in Chicago in 1881 a stereotype plate service, known as Nelson's Ready Print. This interested O. J. Smith, proprietor of the *Chicago Express*, and was the direct cause of an amalgamation consisting of Smith, Nelson and G. W. Cummings, known as the American Press Association. Mr. Nelson succeeded in spreading the activities of the association until it had branches in twenty cities. In 1886 he promoted the Thorne type-

setting machine, of which, later, he became sole owner. In 1894 he became associated with the American Type Founders Company as general manager, becoming president in 1901. In 1900 he founded the National Paper and Type Company, establishing branch houses in the principal cities of South and Central America, Mexico and the West Indies.

**NETHERLANDS, THE, or HOLLAND.** A constitutional monarchy of Europe, bordering on the North Sea, which bounds it on the west and north; bounded on the east by Germany and on the south by Belgium. Capital, The Hague.

**AREA AND POPULATION.** On Jan. 1, 1925, the total area was 12,591 square miles, exclusive of water; population, according to the census of 1920, 6,865,314; according to the communal lists for Dec. 31, 1924, 7,315,046; density per square mile in 1924, 581. According to the figures for 1924, 46.35 per cent of the population, or 3,390,855, were inhabitants of towns of 20,000 or more, the remainder being classified as rural. In 1925 the movement of population was: Births, 178,524; deaths, 72,090; marriages, 54,712. The emigration, mostly to North America, was 3137 in 1924. The largest cities with their populations, Dec. 31, 1924, are: Amsterdam, 712,222; Rotterdam, 543,694; The Hague, 391,369; and Utrecht, 149,808.

**EDUCATION.** Elementary education is free and compulsory between the ages of seven and 13, the cost being shared by the state and the communes. Public elementary schools in 1922-23 numbered 3835 with 17,983 teachers and 534,863 pupils; and private elementary schools, 3203 with 17,291 teachers and 527,757 pupils. For higher education there are the four public universities at Leyden, Utrecht, Amsterdam, and Groningen, with totals of 375 members in the faculties and 6528 students. Besides there are a technical university, a private university, navigation schools, commercial schools, schools for working people, etc.

**PRODUCTION.** The cultivated land in 1924 amounted to 2,495,074 hectares, distributed as follows: Arable land, 891,118; pasture, 1,253,877; gardens and orchards, 99,850; forest, 250,229. The yield of the more important crops in 1924 were as follows: Wheat, 569,955 quarters; barley, 422,482 quarters; oats, 2,265,040 quarters; rye, 1,913,716 quarters; sugar-beet, 2,426,499 tons; and flax, 9294 tons. (See also article on AGRICULTURE, *Production by Countries*.) According to the latest available census of livestock there were 363,668 horses, 2,062,771 cattle, 668,211 sheep, and 1,519,245 pigs. Dutch agriculture during 1926 was adversely affected by high German tariffs that are cutting down Holland's sales to its big foreign customer, and inadequate returns on domestic sales were adding to the depression. A further difficulty arose from the competition of Belgian farm produce, which, as franc depreciation continued, was sold to Dutch canning factories far below local prices.

Coal is mined in the province of Limburg; the output in 1924 was 5,863,785 tons, of which mines owned by the State produced 2,942,718 tons. The 1925 production amounted to 6,848,000 tons, a record figure. In 1924 5137 vessels of all kinds were engaged in the fisheries; the herring fishing in the North Sea was valued at 14,350,015 guilders; the quantity of oysters produced was 1,745,270 kilos. Among the chief industries are: Shipbuilding, sugar refining, dis-

tilling, brewing, the production of salt, and diamond cutting.

**COMMERCE.** Trade figures for 1925 showed increases of 92,000,000 guilders in imports and 147,000,000 guilders in exports, the totals being 2,456,000,000 guilders and 1,808,000,000 guilders, respectively, and resulting in an adverse balance of 648,000,000 guilders as against 703,000,000 guilders in 1924. This represents the lowest import excess since the War and higher export values than in 1920. Dutch import values for the year ended June 30, 1926, amounted to 2,491,000,000 guilders and exports to 1,754,000,000 guilders, resulting in an unfavorable balance of trade of 737,000,000 guilders as against 685,000,000 guilders for the year 1924-25. Imports from the United States for the first half of 1926 decreased to 132,000,000 guilders from 147,000,000 in 1925, and exports to the United States increased from 23,000,000 guilders to 35,000,000. Notwithstanding the growing trade deficit as a source of concern, the situation does not seem to warrant great fear; for with the development of German transit business through Rotterdam and with the prosperity of colonial companies, Holland has large invisible exports which enable it to support a heavy trade deficit and, in addition, to export large sums of capital in the form of subscriptions to foreign loan issues.

**FINANCE.** As voted by parliament, the 1926 ordinary budget showed an excess of receipts for the first time since 1920, but the extraordinary budget still carried a rather large deficit. The "crisis" budget disappeared in 1924, and the extraordinary budget expenditures have declined from 289,676,000 florins in 1921 to 61,385,000 florins in 1926. Severe economies have likewise been effected in the ordinary budget, which for 1926 showed expenditures of 583,026,000 florins as compared with 832,367,000 florins in 1922, and receipts of 592,201,000 florins as compared with the high point of 613,695,000 florins reached in 1920. Tax yields in 1925 amounted to 464,076,000 florins, or 46,134,000 above estimates. During the first half of 1926 receipts amounted to 247,649,000 florins, or 18,551,000 above estimates. Most of this increase is derived from large income-tax payments, reflecting bigger earnings within the country and from the operation of the new tariff schedule, which raised duties from five to eight per cent.

On Jan. 1, 1926, the total debt was 3,177,670,000 florins, comprising a consolidated debt of 2,871,341,000 florins and a floating debt of 306,329,000 florins. Comparative figures for Jan. 1, 1925, were 3,283,037,000 florins for the total debt, comprising 2,923,433,000 florins of consolidated debt and 359,604,000 of floating debt. By July 7, 1926, the floating debt had further decreased to 268,044,000 florins.

**COMMUNICATIONS.** At the beginning of 1924 the merchant marine of The Netherlands consisted of 173 sailing vessels of 16,751 tons and 696 steamers of 1,302,783 tons. In 1924 18,870 vessels of 23,770,000 tons entered the ports of The Netherlands and 18,927 of 23,729,000 tons cleared. Of these vessels 5475 of 7,495,000 tons were Dutch (entered) and 5472 vessels of 7,642,000 tons (cleared). In 1924 the two principal railways had a length of 2405 miles.

**ARMY AND NAVY.** The strength of the Dutch army on Apr. 1, 1925, was 7839 officers and 329,324 men. The military budget for 1926 was 58,-

606,877 florins. The naval budget for the same year was 43,773,897 florins. See **MILITARY PROGRESS**; **NAVAL PROGRESS**.

**GOVERNMENT.** Executive power is vested in the sovereign and legislative power conjointly in the parliament, which is called the States-General and consists of two chambers. The upper chamber is composed of 50 members, elected by the provinces, and the lower chamber of 100 deputies, elected directly. Ruling sovereign at the beginning of the year, Queen Wilhelmina Helena Pauline Maria, born Aug. 31, 1880, and crowned Sept. 6, 1898. The first chamber as a result of the elections of 1923 was distributed among the political groups as follows: 16 Catholics, 8 Anti-Revolutionists, 7 Protestant Party, 5 Liberty Union, 3 Democrats, and 11 Social Democrats. The second chamber as a result of the elections of 1925 was distributed among the political parties as follows: Catholics, 31; Social Democrats, 24; Anti-Revolutionists, 13; Christian Historicals, 11; Liberty Union, 9; Democrats, 7; other parties, 5. The ministry as formed Mar. 8, 1926, was as follows: Prime Minister and Minister of Finance, Dr. D. J. de Geer; Foreign Affairs, Dr. H. A. van Karnebeek; Interior and Agriculture, Dr. J. B. Kan; Justice, Dr. J. Donner; Colonies, Dr. J. C. Konigsberger; War, L. A. van Roijen; Public Works, Dr. H. van der Vegte; Marine, L. A. van Roijen; Labor, Commerce, and Industry, Dr. J. R. Slotemaker de Bruïne; Instruction, Science, and Arts, Dr. M. A. M. Waszink.

**HISTORY.** As noted in the preceding **YEAR BOOK**, a severe cabinet crisis occurred in November, 1925, because of the amendment of the 1926 budget bill providing for the abolition of the Dutch Legation at the Vatican. At first the Catholic members of the cabinet resigned and they were shortly afterward followed by the Protestant members. All attempts to form a new cabinet were unsuccessful until Mar. 4, 1926, when Queen Wilhelmina was able to get a cabinet under the leadership of former Finance Minister de Geer, who was directed to form a cabinet without paying attention to the party groupings in the chamber.

The last two months of the year witnessed several uprisings in the Dutch colonies in the East Indies, particularly in Java where Communist uprisings were prevalent and were forcibly suppressed by the authorities and many of the leaders arrested.

**NEVADA. POPULATION.** According to the Fourteenth Census of the United States, the population of the State Jan. 1, 1920, was 77,407, and no subsequent estimate had been made to 1926. Capital, Carson City.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	209,000	520,000 *	\$5,480,000
	1925	213,000	652,000 *	5,868,000
Potatoes	1926	5,000	700,000	910,000
	1925	4,000	680,000	1,292,000
Wheat, winter	1926	5,000	120,000	182,000
	1925	4,000	104,000	152,000
Wheat, spring	1926	12,000	288,000	840,000
	1925	11,000	352,000	514,000

\* tons.

**MINERAL PRODUCTION.** The metals gold, silver, lead, copper and zinc, furnishing about nine-

tenths of the total value of the State's mineral production, were produced to the total value of \$23,309,352 in 1925, as against \$22,799,790 in 1924. Gold and silver production declined. That of gold was 187,104 fine ounces in 1925 and in 1924, 217,962 fine ounces. That of silver was 7,096,618 fine ounces in 1925 and in 1924, 9,411,379 fine ounces. Copper, lead and zinc production rose considerably; that of copper to 79,300,224 pounds in 1925 from 73,805,323 for 1924; lead to 24,476,452 pounds in 1925 as against 20,060,041 pounds in 1924; zinc to 14,821,293 pounds in 1925, as against 11,002,910 in 1924. The production of gypsum increased in 1924, to 365,714 short tons, as against 289,390 short tons in 1923; in value, \$2,063,089 in 1924, and in 1923, \$1,952,007. The total value of the State's mineral products, duplications eliminated, was in 1924, \$26,225,943; in 1923, \$28,598,627.

The value of the gold, silver, copper, lead, and zinc in Nevada increased to about \$26,084,000 in 1926, according to a preliminary estimate. The gold output decreased to \$3,708,000 on account of the marked decrease in bullion from the mines at Jarbidge and Tonopah. The silver production decreased to about 6,462,000 ounces in 1926, and the value from \$4,925,053 to \$4,032,000. The copper output increased to about 113,616,000 pounds in 1926, and the value to about \$15,679,000. The Nevada Consolidated Copper Co., operating property at Ely, was by far the largest producer of copper in the State. The lead output decreased slightly to about 23,700,000 pounds in 1926, and the value to about \$1,967,000. The zinc recovered from ore mined decreased from 14,821,293 pounds in 1925 to about 9,500,000 pounds in 1926 and from \$1,128,418 in value to about \$698,000. The decrease is accounted for by the closing of the Yellow Pine mine which for many years was the largest zinc producer in the State.

**FINANCE.** As summarized by the Department of Commerce of the United States, payments for maintenance and operation of the general departments of the State in the fiscal year ending Dec. 31, 1925, were \$2,225,598. Their per capita rate was \$28.75, as against \$26.32 in 1924 and \$10.98 in 1917. The total included \$388,915 for education, apportioned among minor State divisions. Expenses totaling \$89,237 for interest on debt and \$2,437,890 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of State payments \$4,752,815. For highways was expended the sum of \$2,819,235, of which \$537,947 was for maintenance and \$2,281,288 for construction.

Revenue receipts of the State were \$4,598,323, or \$59.40 per capita. They exceeded by \$2,283,488 the total payments except those for permanent improvements, and were \$154,492 less than the total with these included. Property and special taxes formed 29.9 per cent of the revenue in 1925, as against 28.5 per cent in 1924 and 57.4 per cent in 1917. Their per capita rate was \$17.79 in 1925, \$18.72 in 1924 and \$9.97 in 1917. Earnings of the general departments and compensation for officials' services furnished 3.8 per cent of the 1925 revenue; business and non-business licenses, 12.2 per cent. License receipts were derived chiefly from taxes on incorporated companies and on gasoline sales, and from licensing of motor vehicles.

The net indebtedness of the State on Dec. 31, 1925, was \$1,738,000, or \$22.45 per capita, as against \$21.45 per capita in 1924 and \$9.36 in 1917. The assessed valuation of property subject to State tax was \$199,318,674. The State tax levy was \$1,283,211, or \$16.58 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 2137. There was constructed in 1926, 72 miles of new line, chiefly pertaining to the Rogers-Wells route of the Oregon Short Line, completed in the course of the year.

**EDUCATION.** The use of achievement tests in the schools resulted, according to W. J. Hunting, State superintendent of public instruction, in a definite improvement in the quality of the school work performed. He also commented favorably on the operation of the increased requirements demanded for the issue and for the renewal of school teachers' certificates. A law enacted by the Legislature of the preceding year to render possible the consolidation of elementary and of high school districts bore fruit during 1926 in a widespread consolidation movement.

**LEGISLATION.** A special session of the Legislature convened in December. Republican members of the State Senate in order to prevent a change of the rules by members of the opposing party withdrew, preventing a quorum. They returned on receiving assurance that the rules would not be altered. A bill was enacted to permit county and city governing boards when petitioned by 51 per cent or more of the electorate, of the political subdivision affected, to reconvey lands previously donated for parks or other public purposes. The immediate purpose of the act was to meet the needs of Las Vegas, where it was desired to donate park lands to provide a site for a large privately owned hotel.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Fred B. Balzar, Republican candidate, was elected Governor. U. S. Senator Tasker L. Oddie, Republican, was re-elected, to serve the six-year-term beginning Mar. 4, 1927. A referendum proposal to request Congress to call a convention for the submission of a proposal to alter the Eighteenth Amendment was carried. Mr. Balzar made his campaign for the Governorship largely on the issue of economy, and after election declared his intention to reduce State expenses, particularly those in the highway department. A prevalently Republican State Legislature was elected, giving Nevada the first consistently Republican government in eight years.

Other State officers elected November 2, were: Lieutenant-Governor, Morley Griswold; Secretary of State, W. G. Greathouse; State Treasurer, Ed. Malley; State Controller, E. C. Peterson; Attorney General, M. A. Diskin; Auditor, I. Jeffries; Superintendent of Public Instruction, Walter W. Anderson.

A tract of 100,000 acres of Federal land situated in Mineral County was withdrawn from the public lands open to homesteading, by Presidential order issued in October. This tract, lying south of Walker Lake and near Hawthorne, had been selected after inspection by U. S. Navy representatives as the site for a Navy ammunition depot. The intention was to replace the Lake Denmark, N. J., depot, destroyed in July, with a depot in a less populous area. The Navy Department did not immediately

take steps to acquire the Nevada tract, but deferred action until after further consideration of possible depot sites elsewhere, notably in California.

**OFFICERS.** Governor, J. G. Scrugham; Lieutenant-Governor, M. J. Sullivan; Secretary of State, Ed. Malley; Attorney-General, M. A. Diskin; State Comptroller, George A. Cole; Auditor, Iven Jeffries; Superintendent of Public Instruction, W. J. Hunting.

**JUDICIARY.** Supreme Court: Chief Justice, J. A. Sanders; Associate Justices, Ben W. Coleman and Edward A. Ducker.

**NEVADA, UNIVERSITY OF.** A State institution of higher education at Reno, Nevada; founded in 1874. There was an enrollment of 830 students for the fall term of 1926, of whom 502 were men and 328 women. These were distributed as follows among the various departments of the University: arts and sciences, 594; normal school, 42; engineering, 149; agriculture, 23; home economics, 22. The summer session of 1926 had a registration of 145. There were 70 members on the faculty. The productive funds amounted to \$358,439.19 and the income for the year to \$429,489.77. The library contained 45,850 volumes. President, Walter E. Clark, Ph.D., LL.D.

**NEWBOLD, WILLIAM ROMAINE.** Professor of Intellectual and Moral Philosophy at the University of Pennsylvania, died at Philadelphia, Pa., September 26. Born at Wilmington, Del., in 1865, he graduated from the University of Pennsylvania in 1887, becoming interested in psychic matters and the investigation of spirit phenomena. He became a well-known and highly esteemed authority on the history of the early Church and the development of Christianity. His work on the discoveries of the Church of San Sebastino was published in the *American Journal of Archaeology*. Perhaps Professor Newbold's greatest work was the decipherment of the Voynich cipher manuscripts of Roger Bacon.

**NEW BRUNSWICK,** brūnz'wīk. One of the Maritime Provinces of Canada, lying east of Maine and south of the province of Quebec. Area, 27,985 square miles; population, according to the census of 1921, 387,876. The capital is Fredericton, with a population in 1921 of 8114. The largest cities with their populations in 1921 are St. John, 47,166 and Moncton, 17,488. The chief industries are: Agriculture, mining, manufactures, fishing, and lumbering. The acreage and yield of the principal crops for 1925 were as follows: Wheat, 13,396 acres, 230,000 bushels; oats, 225,402 acres, 7,055,000 bushels; barley, 5966 acres, 142,000 bushels; rye, 245 acres, 4000 bushels; mixed grain, 3248 acres, 92,000 bushels; other grains, 48,000 acres, 1,074,000 bushels; potatoes, 40,000 acres, 4,232,000 cwts.; roots, 11,711 acres, 2,140,000 cwts.; hay and clover 548,408 acres, 954,000 tons; fodder corn, 3453 acres, 35,000 bushels. The livestock census in 1925 showed 50,782 horses; 111,225 milch cows; 105,263 other cattle; 151,349 sheep; 60,376 swine; and 951,063 poultry. The total value of the fisheries in 1924 was \$5,383,809. The province possesses various minerals including iron, gypsum, coal, building stone, antimony, copper, and manganese. The only active mining, however, is in coal and gypsum. The coal output in 1924 amounted to 215,632 short tons. In 1924-25 the exports from the Province amounted to \$77,321,958 and the imports for

consumption amounted to \$25,702,006. In the same year there were 1941 miles of railways open for operation. The province is under a lieutenant-governor appointed by the governor-general of Canada, and a legislative assembly of 48 members elected for five years. As a result of the election held in August, 1925, the political grouping in the assembly was as follows: Conservatives, 35; Liberals, 12; Independents, 1. Lieutenant-governor in 1926, W. F. Todd; Prime Minister, Minister of Public Works, and Attorney-General, J. B. M. Baxter; Secretary-Treasurer, A. J. Leger; Agriculture, Lewis Smith; Public Health, Dr. H. I. Taylor; President of the Executive Council, L. P. D. Tilley; Lands and Mines, C. D. Richards; Minister without Portfolio, E. A. Reilly. The province is represented by 10 members in the Canadian Senate and 11 in the House of Commons.

**NEW CALEDONIA**, *kāl'é-dō'nl-ā*. A French colony, comprising the island of New Caledonia, the southernmost of the Melanesian Islands, lying between 20° 1' and 22° 26' S. latitude, and 161° 30' and 144° 40' E. longitude; and the following dependencies: Isle of Pines, Wallis Archipelago, Loyalty Islands, Huon Islands, and Futuna and Alofi. The island of New Caledonia has a length greater than 248 miles and an average width of 31 miles. Area, 7650 square miles. Population, according to the census of 1921, 47,505, of whom 14,172 were free, 2310 of convict origin, and 25,123 Melanesians and Polynesians. Very few immigrants come from France, the vast majority of those coming in 1925 migrating from Java and Tonkin. Capital, Nouméa, with 9336 inhabitants in 1921. No convicts have been sent to the penal settlement on Nou Island since 1896. Coffee, copra, cotton, manioc, corn, bananas, tobacco, and pineapples form the principal agricultural products. The mineral resources are said to be very rich and varied, comprising cobalt, chrome, nickel, iron, manganese, all of which are abundant; also antimony, mercury, silver, gold, lead, copper, and cinnabar. In 1924 the value of mineral exports was 2,846,000 francs. The other leading exports include coffee, copper, copra, guano, and preserved meats. The chief imports are wine, coal, flour, and rice. In 1924, 92 vessels of 128,341 tons entered and 96 of 129,304 tons cleared from the ports of New Caledonia. About two-thirds of those that entered were French. There is a narrow gauge railway from Nouméa to Paita, about 20 miles long; an extension to Bourail, a distance of 105 miles, has been proposed for some time. The colony is administered by a governor assisted by a privy council, made up of officials and by an elected council-general. Governor in 1926, M. Guyon, appointed in 1925.

**NEW CHURCH**. See **NEW JERUSALEM**, **CHURCH OF THE**.

**NEWFOUNDLAND**, *nū'fūnd-lānd'*. An island possession of Great Britain in the north-eastern part of the Gulf of St. Lawrence. Area, 42,734 square miles; population, according to the census of 1921, 259,358, estimated in 1924, 258,425. Dependent upon Newfoundland is the populated strip of Labrador, with an area of 120,000 square miles and a population in 1924 of 3874. Capital, St. John's, with a population in 1924 of 38,782. Other towns and their populations in 1921 are Bonavista, 4025; Harbor Grace, 3825; Carbonear, 3320. The birth rate in 1924 was 25.99 per thousand and the death

rate 16.39 per thousand. The immigrants in the same year numbered 14,214 and the emigrants, 11,801. There were 1099 schools of all kinds in 1924, with a total attendance of approximately 60,000.

According to the United States Bureau of Foreign and Domestic Commerce, the colony of Newfoundland fared well commercially and industrially in 1925, despite reduced returns from its famous cod fishery, which was still the principal source of revenue. The total catch, estimated at nearly 139,000,000 pounds was about 8,000,000 pounds smaller than in 1924, and the prices were slightly less. The estimated value of dried codfish exports for 1925 was \$9,716,000; of pickled codfish, \$116,620; of crude cod oil, \$577,100; and of refined cod liver oil, \$114,558. The estimated returns of the seal fishery were \$362,774 (including sealskins); from the whale fishery, \$175,000; from the herring fishery, \$204,000; and from other fisheries, \$273,890.

Newfoundland's forests are crowding closely upon its fisheries as revenue-producing resources, the total value of its exported products amounting to almost \$7,000,000 during the year. The new pulp and paper plant on the Humber River, which commenced operations early in September, 1925, had an export of about 20,000 tons of newsprint, valued at \$1,400,000, up to the end of the year. The long established plant at Grand Falls produced 73,310 tons of newsprint, worth \$5,131,700, as well as 7440 tons of wood pulp, appraised at \$126,582. Two lumber companies exported 400,000 cords of pit props valued at \$300,000. Agricultural products next in order, had a reported value of \$3,701,880. Potatoes, the chief contributor in this class, were valued at \$1,587,306; hay at \$1,477,500; cabbages at \$383,405; and turnips at \$205,392. Mining activity during the year was centred at Bell Island, where about 900,000 tons of iron ore were taken out. Exports of iron ore (including ore previously mined) reached 1,132,010 tons worth approximately \$1,700,000. Small quantities of copper, lead, and silver ore, aggregating about \$290,000 in value, were exported.

Perhaps the most encouraging accomplishment of the colony was the excellent financial record of the government, which closed its fiscal year with a surplus and greatly improved public credit. A total of \$2,300,000 was expended on public works and private construction during the year. The revenue for 1924-25 was \$9,783,188 and the expenditure \$9,436,185; for 1925-26 the revenue was estimated at \$9,560,000 and expenditures at \$9,354,000. The public debt on June 30, 1925 was \$64,517,999.

The government railways open in 1925 totaled 905 miles; private railways, 47 miles. The Newfoundland government railway showed a net loss of \$358,509 for the fiscal year ended June 30, 1925, whereas the previous year's loss was only \$6519. This result can be attributed largely to the diminished traffic receipts, following the completion of large construction enterprises on the west coast, and to greater expenditure on maintenance of way and structures, in preparation for the relaying of nearly 100 miles of track with new 70-pound rails.

Executive power is vested in a governor, assisted by an executive council of not more than 10 members, and legislative power is vested in a council of not more than 24 members and

an elected house of assembly consisting of 36 members. Governor, Sir William L. Allardyce; Prime Minister and Minister of Education, W. S. Monroe; Justice, W. J. Higgins; Colonial Secretary, J. R. Bennett; Finance and Customs, Sir J. C. Crosbie; Posts and Telegraphs, W. J. Woodford; Marine and Fisheries, Wm. C. Winsor; Public Works, C. E. Russell; Agriculture and Mines, W. J. Walsh; Ministers without Portfolios, A. B. Morine, M. S. Sullivan, Richard Cramm, F. G. Bradley, and Joseph J. Long.

**NEW GUINEA, gin's.** An island of the East Indies, the third largest in the world, ranking after Australia and Greenland. Area, variously estimated at from 310,000 to 335,000 square miles; population estimated to be slightly below 1,000,000. It is divided among Australian, Dutch, and British control, the distribution being as follows: The northeastern portion, constituting the former Kaiser Wilhelmsland, to Australia; the western part, to 140° E. longitude to the Dutch East Indies; the southeastern part of the British colony of Papua. See DUTCH EAST INDIES, GERMAN NEW GUINEA, and PAPUA.

**NEW HAMPSHIRE. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 443,083. The estimated population on July 1, 1926 was 454,000. The capital is Concord.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	469,000	534,000 *	\$10,146,000
	1925	469,000	572,000 *	10,852,000
Potatoes	1926	11,000	1,815,000	3,086,000
	1925	11,000	1,595,000	3,748,000
Corn	1926	15,000	705,000	705,000
	1925	14,000	700,000	700,000

\* tons.

**MINERAL PRODUCTION.** Stone, which constitutes the State's most important mineral industry, was produced to a total of 93,340 short tons in 1924, as compared with 122,460 short tons in 1923; the product was valued at \$1,556,698 in 1924 and at \$1,763,221 in 1923. The clay products of the State had a value for 1924 of \$868,444; and for 1923, of \$913,389. Sand and gravel were produced to a value of \$416,014 in 1924 and in 1923, \$423,854. The State was the second largest domestic producer of feldspar, with an output of 39,425 long tons in 1924, as against 23,280 long tons in 1923; having a value of \$324,638 in 1924 and in 1923 of \$171,789. The total value of the State's mineral products was \$3,378,165 in 1924 and in 1923, \$3,572,615.

**FINANCE.** As summarized by the Department of Commerce of the United States, payments for maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$5,453,704. Their per capita rate was \$12.13, as against \$10.02 in 1924 and \$5.50 in 1917. The total included \$346,932 for education, apportioned among minor State divisions. Expenses totaling \$110,038 for interest on debt and \$1,778,364 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of State payments, \$7,342,106. For highways was expended the sum of \$2,899,845, of which \$1,525,719 was for maintenance and \$1,374,126 for construction.

Revenue receipts of the State were \$7,263,820, or \$16.16 per capita. They exceeded by \$1,700,078 the total payments except those for permanent improvements, and were \$78,286 less than the total with these included. Property and special taxes formed 35.7 per cent of the revenue in 1925, as against 41.7 per cent in 1924 and 57.5 per cent in 1917. Their per capita rate was \$5.77 in 1925, \$5.99 in 1924 and \$3.22 in 1917. Earnings of the general departments and compensation for officials' services furnished 8.1 per cent of the 1925 revenue; business and non-business licenses, 38.2 per cent. License receipts were derived chiefly from taxes on incorporated companies, from the road toll on sales of gasoline, which increased considerably during the year, and from licensing of automobiles.

The net indebtedness of the State on June 30, 1925, was \$1,665,806, or \$3.71 per capita, as against \$4.76 per capita in 1924 and \$4.09 in 1917. The assessed valuation of property subject to State tax was \$645,001,661. The State tax levy was \$2,790,286, or \$6.21 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of the year 1925 was 1234. No new construction was reported in 1926. The Boston and Maine abandoned a 19 mile stretch of line between East Milford and Grasmere Junction and a 3 mile stretch between Bethlehem Junction and Bethlehem.

**EDUCATION.** According to a school enumeration made in September, 1924, children between the ages of 5 and 16 years numbered 88,082. Registration of pupils in the year ending June 30, 1925, in the public schools numbered 74,118. In approved senior high schools alone were registered 13,769 pupils. Total expenditure for public education in elementary, secondary, and normal schools and mothers' aid instruction was \$6,947,895. Salaries of teachers in 1926 averaged as follows: in rural schools, \$823; in village elementary, \$981; city elementary, \$1298; high, \$1612.

**CHARITIES AND CORRECTIONS.** The State Board of Charities and Corrections, consisting of six appointed members, holds extensive powers as to delinquent and dependent children, the supervision of lying-in hospitals, and aid to the deaf, dumb and blind, under laws of 1925. These laws likewise forbade the marriage of mental defectives and created a system of children's courts and a parole for delinquent minors. Population of State institutions on June 30, 1926, was as follows: New Hampshire State Hospital, Concord, 1570; Laconia State School (for feeble-minded children), 229 males, 254 females; State Industrial School (for juvenile delinquents), Manchester, 124 boys, 57 girls, not counting those on parole; State Prison, Concord, 130 men, 5 women; New Hampshire Soldiers' Home, Tilton; State Sanatorium for Consumptives, Glencliff, 85; Pembroke Sanatorium School (tubercular children), 27; Pembroke Sanatorium, 67.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Huntley N. Spaulding, Republican candidate, was elected Governor, defeating Eaton D. Sargent, Democrat. Senator George H. Moses, Republican candidate for reelection to the U. S. Senate for the regular six-year term, defeated R. C. Murchie, Democrat, by a majority of approximately 30,000. Both Republican members of the U. S. House of Representatives from the State were reelected, and heavy majorities of the same party were



elected to the State Legislature and Council.

Other State officers elected in November, to take office in 1927, were: Secretary of State, Hobart Pillsbury; State Treasurer, Henry E. Chamberlin.

In consonance with like moves in other States, a Crime Commission was formed, the members being appointed by Governor Winant May 31. The commission had directions to cooperate with the National Crime Commission.

**OFFICERS.** Governor, John G. Winant; Secretary of State, Hobart Pillsbury; State Treasurer, Henry E. Chamberlin; Attorney-General, Jeremy R. Waldron; Commissioner of Education, Ernest W. Butterfield.

**JUDICIARY.** Supreme Court: Chief Justice, Robert J. Peaslee; Associate Justices, John E. Allen, Thomas L. Marble, Oliver W. Branch, Leslie P. Snow.

**NEW HAMPSHIRE, UNIVERSITY OF.** A State institution of higher education at Durham, N. H.; founded in 1866 at Hanover, N. H., as a part of Dartmouth College, transferred to Durham as State College in 1893, and made State University in 1923. It consists of a college of liberal arts, a college of agriculture, and college of technology. The 1926-27 enrollment was 1440, which comprised 1016 men and 424 women. The summer session had a registration of 263 students. The faculty numbered 125. The endowment amounted to \$1,030,000, and the income for the year totaled \$1,197,520. The college year 1925-26 was the first under the millage law of 1925, which provides an annual amount equal to one mill for each dollar of the assessed valuation of the State. This fund, which in 1925-26 amounted to \$585,000, together with income from other sources, is sufficient for the maintenance of the University and for the gradual construction of a complete physical plant in accordance with a comprehensive plan for the development of the University. In 1926 a dormitory to accommodate 150 men was completed, and a liberal arts classroom building begun. The library contained 55,000 volumes. President Ralph Dorn Hetzel, LL.D., resigned to take effect Jan. 1, 1927, to become president of Pennsylvania State College.

**NEW HEBRIDES,** heb'ri-déz. A group of islands in Melanesia, including the following islands: Espiritu Santo, Mallicolo, Efate or Sandwich Island, Epi, Erromanga, Tanna, Tutuana or Eironnian, and Anietyum. The group is under the joint administration of France and Great Britain, according to conventions of February, 1906, and Mar. 18, 1922. The interests of British, French, and Natives are guaranteed; the conditions of land holding in the islands are fixed; and the regulation and recruitment of labor provided for. The area is approximately 5700 square miles and the population about 60,000, of whom in 1924, 247 were British and 741 French. Many missionary schools have been established, chiefly by the Presbyterian faith. The land for the most part has not been cleared, but large tracts have been settled in the interior. The area under cultivation of the principal crops in acres in 1924 was as follows: Coconuts, British, 35,000, French, 25,110; coffee, British, 200, French, 2425; Maize, British, 500, French, 882; Cotton, British, 2500, French, 4115; Cacao, British, 1260, French, 7005. Bananas, oranges, and all tropical fruits grow well. Trade is chiefly with Sydney and New Caledonia. The

British imports in 1924 amounted to 1,679,824 francs and the French 6,249,503 francs. The combined exports were valued at 23,197,067 francs, of which about one-fourth were British. The chief imports are provisions, clothing, metals, and furniture and the chief exports are corn, copra, coffee, cotton, coconuts, and cacao. The joint revenue in 1924 was 944,725 francs and expenditure 686,742 francs. British revenue in 1924-25 amounted to £487 and expenditure to £13,600. Direct steamship communication has been established with France, via Tahiti and Panama. British High Commissioner, Sir Eyre Hutson; French High Commissioner, M. Guyon; British Resident Commissioner, G. B. Smith-Rewse; French Resident Commissioner, M. H. d'Arboussier.

**NEW JERSEY.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 3,155,900. The estimated population on July 1, 1926, was 3,680,000. The capital is Trenton.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	250,000	391,000 *	\$7,937,000
	1925	257,000	400,000 *	8,000,000
Potatoes	1926	50,000	7,250,000	11,238,000
	1925	55,000	5,830,000	13,409,000
Sweet potatoes	1926	17,000	2,465,000	2,958,000
	1925	16,000	1,872,000	4,493,000
Corn	1926	188,000	8,648,000	6,918,000
	1925	199,000	10,348,000	7,554,000
Wheat, winter	1926	60,000	1,320,000	1,742,000
	1925	56,000	1,176,000	1,682,000
Oats	1926	50,000	1,650,000	825,000
	1925	50,000	1,500,000	810,000
Peaches	1926	.....	3,000,000	1,890,000
	1925	.....	1,740,000	2,610,000

\* tons.

**MINERAL PRODUCTION.** Clay products attained a total value of \$46,414,167 in 1924, as against \$44,921,714 in 1923. They formed the State's most valuable mineral product. Zinc, the second product in order of annual value, yielded 84,370 short tons in 1924, as against 75,227 short tons in 1923. The value of zinc produced in the State in 1924 was not far from \$11,000,000. Cement was produced on an important scale. Of sand and gravel were produced 3,968,361 short tons in 1924 and 6,101,204 short tons in 1923; the product was valued at \$3,345,764 in 1924 and in 1923 at \$4,381,855 in 1923. Stone, produced in the quantity of 2,149,270 short tons in 1924, and of 2,039,740 short tons in 1923, attained a value of \$3,326,298 for 1924 and of \$3,032,918 for 1923. Iron ore, greensand marl, and peat were produced in considerable quantities. The total mineral production of the State, duplications eliminated, was \$75,271,009 in 1924 and in 1923, \$72,602,066.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$39,827,994. Their per capita rate was \$11.46, as against \$11.19 in 1924 and \$6.85 in 1917. The total included \$15,930,678, for education, apportioned among minor State divisions. Expenses totaling \$1,944,491 for interest on debt and \$28,251,268 for permanent improvements, added to the payments for maintenance and operation of departments, made the



total of State payments \$70,023,753. For highways was expended the sum of \$30,495,336, of which \$5,516,249 was for maintenance and \$24,979,087 for construction.

Revenue receipts of the State were \$61,292,881, or \$17.64 per capita. They exceeded by \$19,520,396 the total payments except those for permanent improvements, and were \$8,730,872 less than the total with these included. Payments in excess of revenue were met from proceeds of debt obligations. Property and special taxes formed 64.3 per cent of the revenue in 1925, as against 66.2 per cent in 1924 and 76.4 per cent in 1917. Their per capita rate was \$11.34 in 1925, \$10.64 in 1924 and \$5.93 in 1917. Earnings of the general departments and compensation for officials' services furnished 5.8 per cent of the 1925 revenue; business and non-business licenses, 19.5 per cent. License receipts were derived chiefly from taxes on incorporated companies and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$51,432,235, or \$14.80 per capita, as against \$9.76 per capita in 1924 and 4 cents per capita in 1917. Debt was increased in 1925 by a bond issue of \$20,000,000 for highways. The assessed valuation of property subject to State tax was \$5,062,950,215. The State tax levy was \$32,291,485, or \$9.29 per capita.

**TRANSPORTATION.** The total mileage of railroad line operated at the end of 1925 was 2292. New construction and abandonment of line in 1926 were slight.

**EDUCATION.** An act of the State Legislature brought the State normal schools, which had previously been in the charge of the State Board of Education, under the direction of the State Commissioner of Education. The Legislature reaffirmed the State teachers' pension and annuity system. Governor Moore vetoed a bill to require attendance at public schools on certain patriotic holidays. The State board of education adopted a resolution for a survey of the public school system. The enrollment of pupils in public schools in the State was 720,346. In common schools were enrolled 623,553, and in high schools, 90,306; in addition there was an enrollment of 6487 in special classes. Expenditures for education in 1926 attained \$79,257,629. The salaries of day school teachers averaged \$1852.

**CHARITIES AND CORRECTIONS.** The State had under construction in 1926 at Totowa a North Jersey Training School for Feeble-Minded Females, designed to train the higher grade feeble-minded girls for domestic service. The Department of Institutions and Agencies, created in 1918, had full charge of charitable, correctional, reformatory and penal institutions. The chief of these were: State Hospital for the Insane, Grey-stone Park; State Hospital for the Insane, Trenton, 2445 inmates; State Village for Epileptics, Skillman, 918 inmates; State Institution for the Feeble-Minded, Vineland, 1085; State Colony for Feeble-Minded Males, New Lisbon, 309; Sanatorium for Tuberculous Diseases, Glen Gardner, 284; New Jersey State Prison, Trenton, 1640; New Jersey Reformatory, Rahway, 563; New Jersey State Home for Boys, Jamesburg, 639; New Jersey State Home for Girls, Trenton, 256; New Jersey Memorial Home for Disabled Soldiers, Vineland, 242.

**LEGISLATION.** Two sessions of the State Legislature were held. The first, for the passage of

bills in general, ended March 25. The second, convened May 11, had for its object the conservation of the potable water supply. The second or special session had as one of its chief purposes the passage of legislation in conformity with the States of New York and Pennsylvania to form a tri-State agreement as to participation in use of the waters of the Delaware River watershed. Under the proposed agreement awaiting enactment by New Jersey, the State would gain the use of tributaries of the Delaware River situated chiefly within the State's borders. Owing to lack of harmony as between local groups within the State, the special session failed to pass the Delaware River legislation. The Water Policy Commission already in existence and charged with conferring with Pennsylvania and New Jersey commissioners on compacts relative to interstate waters had its powers in these matters renewed by statute.

The regular session passed numerous acts. As a consequence of an atrocious crime committed by an escaped inmate of an Essex County asylum, power was given superintendents of the county insane to arrest fugitive inmates without warrant and bring them back. Two extra circuit court judgeships were created to be filled by the governor's appointment for seven-year terms. A statute was enacted forbidding the issue of an injunction by any State court against striking or strike picketing, provided that strike pickets should maintain an interval of ten paces. A department of motor vehicles was created, having a commissioner elected by the Legislature for a four-year term, and maintaining a motor vehicle inspection force with power to stop and examine any vehicle, and to regulate highway traffic. Provision was made for acquisition of lands for a Sand Dune State park. The auto-bus act of 1916 was extensively amended. The State Board of Education was empowered to take land in Bordentown for an Industrial Colored School.

By joint resolution the U. S. Congress was asked to maintain the naval air station at Lakehurst. The State attorney-general was authorized to appear before the Secretary of Commerce or other proper Federal authority against licensing radio broadcasting stations where complained of by a New Jersey municipality. A commission of six was created to devise a uniform system for administering the motor vehicle and traffic acts. For revising the State's blue laws a commission of six was formed, to report a bill to the next subsequent legislature. It was asked that the Shipping Board make up to Hoboken loss of taxes sustained since the Board had taken over the old North German Lloyd piers. There were rendered available \$250,000 for purchase of wild lands in the State for forestation.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, there were elected to the U. S. House of Representatives nine Republicans and three Democrats. Republican majorities were maintained in both houses of the State Legislature.

Gov. A. Harry Moore was inaugurated January 19. He appointed, May 19, five members to form a crime commission somewhat similar in purpose to the Baumes commission of the previous year in New York State, and charged to make recommendations to the Legislature session of 1927 as to needed changes in the criminal

statutes, for coping with increase in the prevalence of professional crimes of violence. The arsenal of the U. S. Navy, situated at Lake Denmark near Dover, was destroyed July 10. Lightning started a fire in which a vast quantity of explosive materials was set off, causing damage later fixed at the total of \$47,000,000, and leaving some 30 persons killed or missing.

The trial of Frances Stevens Hall, the widow of the Rev. Edward W. Hall, rector of the church of St. John the Evangelist, in New Brunswick, for murder, took place at Somerville, N. J., Mrs. Hall was tried only on the charge relating to the killing of Mrs. Eleanor R. Mills, a choir singer, who was found dead with the New Brunswick rector. The investigation of the murders, which took place in September, 1922, had been resumed in 1926 after a long lapse. Alexander Simpson, State Senator from Hudson County, appointed assistant State attorney-general of New Jersey by Governor Moore with the special mission of seeking to bring the guilty in the case to justice, obtained indictments in Somerset County against Mrs. Hall, and likewise against her two brothers William and Henry Stevens, and a cousin, Henry B. Carpender, charging each of the four as principal or as accessory in each murder. The trial was opened November 3. Three defendants, Mrs. Hall and her two brothers, were tried together under indictments as to the death of the woman victim only. The chief witness for the State, Jane Gibson, was brought into court on a hospital bed and swore to the three defendants as the persons whom she had seen at the approximate time and place of the murder. Her testimony was not credited by the jury, nor was that of finger print experts presenting indirect evidence. The defense presented alibis and alleged that the prosecution had been inspired by persons connected with a pictorial daily published in New York. The jury rendered a verdict of "not guilty" and on December 3 Governor Moore denied permission to prosecute under remaining indictments. Expenses of the case, incurred by the special prosecutor and exceeding \$100,000 were declared by him payable by Somerset County, but county authorities took exception to this view, holding that expense was in excess of the gain realized and had been incurred without the county's approval.

Important progress was made during the year in construction undertakings of Statewide significance. The Camden bridge over the Delaware River to Philadelphia was completed and formally opened for traffic July 1. A four-track lift bridge crossing Newark Bay from Bayonne to Elizabethport and carrying the main line of the Central Railroad of New Jersey, was finished and was opened for traffic November 10. See BRIDGES.

A conference held at Trenton March 1 and 2 by the Atlantic Deeper Waterways Association and the Trenton Chamber of Commerce adopted resolutions urging the U. S. War Department to make an early report in favor of the proposed ship canal through central New Jersey from Bordentown to Raritan Bay, and requesting of Congress the necessary appropriations for the canal. The North Jersey Transit commission reported to Governor Moore, January 25, in favor of the construction of a transit loop line 17 miles in length, to cost \$154,000,000 for structural work and \$40,000,000 for equipment. The project involved digging tunnels

under the Hudson River at the Battery and at Fifty-seventh Street, New York, and the construction from the western exits of these tunnels of a line extending in Hudson, Essex, Bergen and Passaic Counties. The report of William G. Sloan, engineer to the State Highway commission, presented November 29, dealt with means to finance the extensive road building plans put before the Legislature by the Commission. It reckoned at \$3,153,500 the initial year's receipts from a one-cent gasoline tax, if imposed by the State.

**OFFICERS.** Governor, A. Harry Moore; Secretary of State, John F. S. Fitzpatrick; Treasurer, William T. Read; Comptroller, Newton A. K. Bugbee; Attorney-General, Edward L. Katzenbach.

**JUDICIARY.** Chancellor, Edwin Robert Walker; Supreme Court: Chief Justice, William S. Gum- mere; Justices: Samuel Kaliach, Frank S. Katzenbach, Jr., Thomas W. Trenchard, Charles W. Parker, Charles C. Black, James F. Minturn, Luther A. Campbell, Frank T. Lloyd.

**NEW JERUSALEM, CHURCH OF THE.** An organization which is also known as the New Church, and popularly called Swedenborgian, because based upon the statement of Christianity set forth in the writings of Emanuel Swedenborg, Swedish scientist, philosopher, theologian, and seer (1688-1772). The two bodies that now compose it are the General Convention of the New Jerusalem and the General Church of the New Jerusalem, the former organized in Philadelphia in 1817, and the latter, which differs from the former mainly in its stricter attitude toward Swedenborg's writings, which it considers as the Word of the Lord revealed at His Second Coming, having separated from the parent body in 1891. The first society of the New Church in the United States was founded in Baltimore in 1792. The polity of the church is a modified episcopacy; the worship of the church is generally liturgical, chants being extensively used. Missionary work is carried on in Denmark, Sweden, Germany, France, Switzerland, Lettland, Czecho-Slovakia, Austria, South Africa, India, Japan, and British and Dutch Guiana.

The amount expended in home and foreign fields during the year ending Apr. 30, 1926, was \$24,400. In 1926 the General Convention consisted of about 5875 communicant members, united into 85 societies, territorially organized as 12 associations. The ministerial membership was 112. Educational institutions of the New Church include a theological school at Cambridge, Mass., a Junior College at Urbana, Ohio, and the Waltham School for Girls, Waltham, Mass. Periodicals include the *New-Church Messenger*, weekly, Brooklyn, N. Y.; the *New-Church Review*, quarterly, Boston, Mass.; the *New-Church League Journal*, monthly, Boston, Mass.; and *Helper*, weekly, Philadelphia, Pa. The Convention meets annually, and convened in 1926 at Philadelphia, Pa., May 15-18. Its 1927 session is scheduled for Chicago, Ill., June 18-21.

The General Church, in 1926, had a worldwide membership of 1861, with 39 ministers and 24 societies, 15 of which were in the United States and Canada, 2 in England, and others in France, Belgium, Holland, Sweden, Natal, New South Wales, and Brazil. A Native Mission was maintained in South Africa. Eight societies conducted parochial schools for the elementary grades. The headquarters are at Bryn Athyn,

Penna., where the Bishop resides and there is a cathedral church, in addition to the Academy of the New Church, with departments from kindergarten to junior college and theological school, the enrollment for 1926-27 being 252. The General Church holds a triennial General Assembly, the Councils meet annually, and the Consistory weekly. Among its periodicals are *New Church Life*, the official monthly, *New Church Sermons*, *The Journal of Education*, and the *Bulletin*.

**NEW MEXICO. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 360,350. The estimated population on July 1, 1926, was 388,000. The capital is Santa Fe.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	182,000	435,000 *	\$5,220,000
	1925	171,000	387,000 "	5,805,000
Corn	1926	221,000	4,420,000	3,845,000
	1925	175,000	3,150,000	3,150,000
Wheat, winter	1926	212,000	4,876,000	5,364,000
	1925	52,000	156,000	234,000
Wheat, spring	1926	87,000	777,000	878,000
	1925	28,000	336,000	504,000
Grain sorghum	1926	119,000	2,618,000	1,047,000
	1925	90,000	1,800,000	1,170,000
Beans, dry	1926	195,000	838,000	2,179,000
	1925	114,000	399,000	1,317,000

\* tons.

**MINERAL PRODUCTION.** Copper production, the leading element in the total value of the State's metal output, was active in 1925, reaching a smelter output of 76,467,245 pounds, as against 78,145,629 pounds in 1924. The 1924 product had a value of \$9,784,578, while that of 1925 was worth approximately \$10,800,000. There were produced 29,572 fine ounces of gold in 1925 and in 1924, 26,742 fine ounces; in value, \$611,300 in 1925 and in 1924 \$552,800. Silver production totaled 799,673 fine ounces in 1925, as compared with 834,933 fine ounces in 1924; having a value in 1925 of \$554,973 in 1925 and in 1924 of \$559,405. Zinc production in 1925 was 18,492,300 pounds valued at \$1,405,415; in 1924, 20,760,000 pounds, valued at \$1,349,348. Coal, of which the production rivaled that of copper in point of value, was produced to the quantity of 2,473,000 short tons in 1925; and in 1924, of 2,786,063 tons. The total coal product of 1924 was valued at \$9,774,000. Stone, sand and gravel, lead and petroleum were produced in minor amounts. The State's total mineral production, in 1924, was \$23,913,528; in 1923, \$23,791,047.

The output of gold, silver, copper, lead, and zinc from New Mexico ores in 1926 in terms of recovered and estimated recoverable metal was \$419,000 in gold, 482,000 ounces of silver, 7,888,000 pounds of lead, 82,600,000 pounds of copper, and 24,200,000 pounds of zinc, according to the U. S. Bureau of Mines. These figures show decreases for gold and silver, but increases for lead, copper, and zinc. At estimated average prices for 1926, the value of the output was: silver, \$300,800; lead, \$654,700; copper, \$11,398,800; and zinc, \$1,778,700. These values give a gross estimated value of the output of \$14,552,000, an increase of about \$676,000, or 5 per cent.

**FINANCE.** As summarized by the United States Department of Commerce, payments for mainte-

nance and operation of the general departments of the State in the fiscal year ending June 30, 1925 were \$3,885,532. Their per capita rate was \$10.22, as against \$10.45 in 1924 and \$5.13 in 1917. The total included \$838,866 for education, apportioned among minor State divisions. Expenses totaling \$200,718 for interest on debt and \$4,577,242 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of State payments \$8,633,492. For highways was expended the sum of \$5,030,509, of which \$609,796 was for maintenance and \$4,420,713 for construction.

Revenue receipts of the State were \$7,907,546, or \$20.95 per capita. They exceeded by \$3,851,296 the total payments except those for permanent improvements, and were \$725,946 less than the total with these included. Payments in excess of revenue were met from proceeds of debt obligations. Property and special taxes formed 22.1 per cent of the revenue in 1925, as against 25.7 per cent in 1924 and 49.1 per cent in 1917. Their per capita rate was \$4.64 in 1925, \$4.13 in 1924 and \$3.20 in 1917. Earnings of the general departments and compensation for officials' services furnished 11 per cent of the 1925 revenue; business and non-business licenses, 9.1 per cent. License receipts included those from taxes on incorporated companies and on gasoline sales, and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$3,914,767, or \$10.37 per capita, as against \$10.69 per capita in 1924 and \$7.96 in 1917. The assessed valuation of property subject to State tax was \$311,661,650. The State tax levy was \$1,529,498, or \$4.05 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 2998. There occurred no abandonment of line and no new construction in 1926.

**EDUCATION.** There was reported an enrollment in the public schools of the State system in the academic year 1925-1926, of 87,687 pupils. The kindergarten enrollment was 642 boys and 742 girls; that in elementary grades, 39,694 boys and 38,451 girls; that in secondary schools, 3806 boys and 4352 girls. Schools numbered 1620, 21 being kindergartens, 1427 elementary and 172 secondary. Expenditure of the State school system for the year, debt service and capital outlay included, aggregated \$5,685,083.

**CHARITIES AND CORRECTIONS.** The State Department of Public Welfare as operating in 1926 consisted of two bureaus, that of public health and that of child welfare. The charitable and correctional institutions of the State were individually under the control each of its own board. No recent collected statistics were available.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, R. C. Dillon, Republican candidate, was elected Governor, defeating Governor A. T. Hannett, who ran on the Democratic ticket for reelection. A contest of the election of Sam G. Bratton to the U. S. Senate in 1924, brought before the Senate by ex-Senator Bursum of New Mexico, was dismissed by the Senate, April 1. Other officers elected November 2 were: Lieutenant-Governor, Edward Sargent; Secretary of State, Jennie Fortune; State Auditor, Miguel A. Otero, Jr.; State Treasurer, War-

ren R. Graham; Attorney-General, Robert C. Dow; Superintendent of Public Instruction, Lois Randolph. John C. Watson was elected a Justice of the State Supreme Court.

**OFFICERS.** Governor, Arthur T. Hannett; Lieutenant-Governor, Edward Sargent; Secretary of State, Soledad C. Chacon (Mrs.); Auditor, Juan N. Vigil; Treasurer, Warren R. Graham; Attorney-General, John W. Armstrong; Superintendent of Public Instruction, Isabel L. Eckles.

**JUDICIARY.** Supreme Court: Chief Justice, Frank W. Parker; Associate Justices, C. M. Botts, Samuel G. Bratton.

**NEW SOUTH WALES.** One of the six original states of the Commonwealth of Australia; located in the southeast part of the continent; bounded on the north by Queensland; on the south by Victoria; on the east by the Pacific Ocean; and on the west by South Australia. Area, exclusive of the Federal Territory, 309,432 square miles; population, including aborigines, according to the census of 1921, 2,101,968. The Federal Territory in 1921 had an area of 912 square miles and 2572 inhabitants. Sydney, the capital, had a population in 1921 of 905,047, including suburbs and shipping. At the end of 1924 the population was estimated at 2,256,649, for all of New South Wales, and 1,012,070 for Sydney. Other towns with their populations at the end of 1924 are: Newcastle and suburbs, 95,070; Broken Hill, 23,140; Auburn, 16,070; Parramatta, 15,690; Granville, 15,430; Bankstown, 14,560; and Lithgow, 12,990. The movement of population in 1924 was: Births, 53,670; deaths, 20,821; marriages, 18,077. During the same year the immigrants numbered 55,066 and the emigrants, 39,652. Education is controlled by the state and instruction is compulsory between the ages of seven and 14. At the beginning of 1925 there were 3259 government schools, with 10,400 teachers, with 333,074 pupils enrolled, and an average attendance of 264,321. There were 693 private schools, of which 467 were Roman Catholic, with 2704 teachers and 66,789 pupils.

Wheat is the principal agricultural crop and the chief fruit crop is oranges. Other grains and other citrus fruits, potatoes, tobacco, bananas and apples, are raised. Wool, tallow, bacon and hams are important products. On June 30, 1924, the livestock census showed 37,539,413 sheep; 2,938,522 cattle; 658,372 horses; and 323,196 swine. The estimated value from forestry products in 1923-24 was £1,659,000. Gold is found throughout the state, the output in 1924 being 18,685 ounces valued at £79,370. Coal produced totaled 11,618,216 tons valued at £9,589,547 in the same year. Other important deposits are iron, Portland cement, lead, and silver.

In 1925 the external commerce was as follows; imports; oversea, £66,315,670; exports, oversea, £60,570,832. New South Wales registered a deficit of £1,274,000 for the fiscal year 1925-26, in contrast with an estimated surplus of £13,616, and with a deficit of £756,449 for the previous fiscal year. Revenues during the year totaled £38,649,646, a decrease of £282,589. Expenditures amounted to £39,923,950, an increase of \$235,266. The deficit resulted from a drop of £1,273,218 in the returns from government-operated business, general increases having been recorded in other items of expenditure. The railroad commissioners in reporting for the 1925-26 fiscal year show that the railways had a deficit of

£803,671 after interest to the amount of £5,249,410 had been charged against earnings of £4,419,039. The deficit compares with a surplus of £32,937 for 1925. The report indicated that the increased working expense was due to increases in wages paid to workers, £586,195 being the amount of the total increase in working expenses due to higher wages. The train mileage for the year totaled 24,624,915, an increase of over 1,300,000 miles over the preceding year. The mileage consisted of passenger trains, 13,547,976 miles; mixed trains, 1,469,201 miles; and goods or freight trains, 9,607,818 miles. The commissioners reported a serious decline in the travel by ordinary passengers due to increased use of motor vehicles. The total length of the state railways at the beginning of the year was 5655 miles.

Executive power is vested in a governor assisted by a cabinet, and legislative power in a bicameral parliament, consisting of a legislative council and a legislative assembly. The legislative council which must not consist of less than 21 members appointed for life by the crown, had 77 members in 1925. There are 90 members in the legislative assembly. Governor at the beginning of the year, Sir Dudley Rawson Stratford de Chair; Prime Minister and Colonial Treasurer, John Thomas Lang.

**NEW YORK.** POPULATION. A census by the State was taken in 1925. This showed a population of 11,162,151, compared with 10,385,227 by the Federal Census in 1920. The population of New York City increased from 5,620,048 in 1920 to 5,873,356 in 1925. The Borough of Manhattan decreased from 2,284,103 in 1920 to 1,945,029 in 1925. All the other boroughs increased their populations. The estimated population of the state on July 1, 1926, was 11,304,000. The capital is Albany.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	4,847,000	6,393,000 <sup>a</sup>	\$95,895,000
	1925	4,917,000	6,794,000 <sup>a</sup>	99,192,000
Corn	1926	670,000	23,450,000	20,167,000
	1925	691,000	24,876,000	24,130,000
Potatoes	1926	248,000	29,016,000	46,426,000
	1925	270,000	25,220,000	49,923,000
Oats	1926	1,017,000	34,578,000	17,289,000
	1925	1,017,000	36,612,000	19,038,000
Wheat, winter	1926	270,000	4,725,000	6,237,000
	1925	300,000	5,850,000	8,892,000
Wheat, spring	1926	9,000	162,000	207,000
	1925	8,000	148,000	225,000
Barley	1926	179,000	5,066,000	3,800,000
	1925	157,000	4,553,000	3,506,000
Buckwheat	1926	203,000	3,837,000	3,415,000
	1925	239,000	4,541,000	3,905,000
Apples	1926	.....	40,375,000	20,350,000
	1925	.....	32,500,000	36,400,000
Beans, dry	1926	97,000	1,145,000	4,286,000
	1925	135,000	1,458,000	6,707,000

<sup>a</sup> tons.

**MINERAL PRODUCTION.** Pig iron furnished the leading item in point of value in the list of the State's mineral production. There were produced in the blast furnaces of the State in 1925, 2,151,036 long tons of pig iron, and in 1924, 1,914,545 long tons; with a value of \$40,435,443 for 1925 and \$38,150,486 for 1924. The iron ore thus processed originated for the most part outside the State. Clay products of the State totaled

\$26,140,688 in 1924; in 1923, \$25,226,187. Next in importance, the production of cement attained 8,780,000 barrels in 1925, and in 1924, 7,671,856 barrels. Cement shipments were valued at \$15,759,000 for 1925 and for 1924 at \$13,460,594. Gypsum production was important, being 1,474,941 short tons in 1924 and 1,361,116 short tons in 1923; in value, \$14,329,246 in 1924 and \$10,344,745 in 1923. Of stone were produced 7,557,320 short tons in 1924 and 7,043,880 short tons in 1923; in value \$10,981,814 in 1924 and \$9,010,324 in 1923. Salt production was 2,053,966 short tons in 1925 and 1,972,808 short tons in 1924, with a value of \$7,133,244 in 1925 and \$6,739,597 in 1924. Sand and gravel, produced in the quantity of 13,397,540 short tons in 1924 and of 10,730,225 short tons in 1923, attained a value of \$8,583,193 in 1924 and of \$7,291,076 in 1923. Petroleum, natural gas and lime were produced in important quantity. The State's total mineral production, duplications excluded, was \$95,435,299 in 1924; in 1923, \$89,975,134. The quantity of zinc ore mined in New York in 1925 was 47,254 short tons, and the concentrates shipped yielded about 10,316,000 pounds of zinc.

**FINANCE.** As summarized by the U. S. Department of Commerce, the payments for maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$166,062,171. Their rate per capita was \$14.96, as against \$11 in 1924 and \$5.51 in 1918. Their total included \$41,368,746, for education, apportioned among minor State divisions, and \$41,899,148 in bonus payments to veterans. Expenses amounting to \$13,096,975 for interest on debt and \$35,805,571 for permanent improvements, added to the payments for maintenance and operation of the State departments, made the total of State payments \$214,764,717. For highways was expended the sum of \$49,269,151, of which \$20,723,348 was for maintenance and \$28,545,803 for construction.

Revenue receipts of the State were \$179,346,636, or \$16.15 per capita. They exceeded by \$187,490 the total payments except those for permanent improvements, and were \$35,418,081 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 52.2 per cent of the revenue in 1925, as against 54 per cent in 1924 and 50 per cent in 1918. Their per capita rate was \$8.43 in 1925, \$8.02 in 1924 and \$4.03 in 1918. Earnings of the general departments and compensation for officials' services furnished 3.8 per cent of the 1925 revenue; business and non-business licenses, 32.8 per cent. License receipts included those from taxes on incorporated companies and from the licensing of motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$228,148,097, or \$20.55 per capita, as against \$20.38 in 1924 and \$17.91 in 1918. The assessed valuation of property subject to State tax was \$17,346,635,443. The State tax levy was \$28,031,835, or \$2.52 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 8373. Switching and terminal companies operated 193 miles of tracks. There were constructed in 1926, 4 miles of new second track, 12 miles of new third track and 4 miles of fourth track. The Central New England abandoned between

Shekomeko and Millerton and between Tanners and Boston Corners two short lines of a combined length of some 10 miles. The Lehigh and New England abandoned the Glenwood branch, some 2 miles in length.

**EDUCATION.** The three years' professional course established in the normal schools of the State was reported to have resulted in the attendance of the largest number of students ever enrolled in these schools. In partial explanation of this outcome, there may be mentioned the passage of increased State aid for schools and increased salary schedules, tending to support the higher teacher qualifications. There went on in the country districts a gradual development of the central rural schools. The Regents' requirements for high schools were modified to such effect that Regents' examinations before the eleventh grade were eliminated, and adjustment of pupils' work in ninth and tenth grades according to individual needs was rendered more flexible.

A committee appointed by Governor Smith to work out a plan for better financing of education in the State formed subcommittees on school finance and on school administration and their findings were embodied in a report, published in February, condemning 1178 rural schools. The committee later recommended a municipal tax on personal incomes to meet needs of public schools, and further suggested a tax on gasoline for school ends. The Cole bill, embodying some of the committee's proposals and providing an increase of \$9,000,000 in the rural school quota, was approved by the Governor, May 5. In great part the recommendations of the committee were laid over for consideration by the session of 1927.

In the academic year 1924-25, the latest for which statistics were available, the school population of the State was placed at 2,556,780. The total enrollment in public schools was 1,951,160; that in common schools, 1,644,850 and that in high schools, 306,310. The total expenditure in all schools of the State for the year was \$358,080,358. Salaries of teachers averaged \$2021.

**CHARITIES AND CORRECTIONS.** The State Board of Charities, consisting of twelve commissioners, one from each judicial district of the State with three additional commissioners from New York City and the director of State Charities, in 1926 had the following divisions: Division of Visitation and Inspection, the head of which is the secretary of the Board, who, besides the administration of the laws relating to State and alien poor and the supervision of 115 almshouses and homes for the aged, has general supervision of the inspection work; Division of Children, with supervision of 309 institutions and agencies and approximately 14,000 children in foster homes and at board; Division of Medical Institutions, supervising 505 hospitals and dispensaries; Division of Administration of Institutions, with supervision and control over the following State Institutions: New York State Orthopedic Hospital for Children, West Haverstraw; New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, Raybrook; State Agricultural and Industrial School, Industry; New York House of Refuge, Randall's Island; New York State Training School for Girls, Hudson; New York State Woman's Relief Corps Home, Oxford; and the Thomas Indian School, Iroquois.

The Division of Special Welfare Interests includes the Bureau of the State Commission for the Blind and the Bureau of Indian Affairs.

Under the previously adopted rebuilding programme for State hospitals, bids were sought in December for a State psychiatric hospital and institute to be located in the upper part of the borough of Manhattan and to cost approximately \$1,600,000.

**LEGISLATION.** The State Legislature passed in its 1926 session (ending April 23) 26 bills which taken together had the effect of reorganizing the administration of the State in a simpler and more closely coordinated system. This reform followed in the main the lines laid down in the report of a commission headed by Charles E. Hughes, submitted to the Legislature on March 1. Some 180 independent departments, commissions and bureaus were merged into 18 departments. An executive budget was provided. The State Water Power Commission was abolished, to cease with the end of the calendar year. In its place was created a commission to be composed of the Conservation Commissioner as chairman, the Attorney-General and the State Superintendent of Public Works. Leases of water power were made subject to the approval of the Governor, prior to their becoming valid. The reorganization was to go into force at the outset of 1927. Besides passing a statute establishing an executive budget, the Legislature passed a Constitutional amendment to the same effect, which was to be approved by the Legislative session of 1927 and subsequently offered to the voters for ratification. Another Constitutional amendment passed provided for a four-year term for the Governorship. Yet another amendment lengthened the tenure of Senators from two years to four and those of Assemblymen from one year to two. These amendments likewise awaited subsequent repassage in 1927 and popular ratification.

The Legislature enacted important measures dealing with crime and criminals. Givers of bail were required to file with the bail bond or deposit an affidavit naming the consideration or indemnity given or promised to the security, and it was rendered needful for the security thus to have filed his statement in order to recover at law the indemnity or consideration therein named. This measure was intended to check abuses in the practices of giving bail, previously brought to light. It was further enacted that a person charged with a felony should not be admitted to bail if there were reason to believe that he had previously been convicted of a felony within the State, or an equivalent crime outside it, or had been twice convicted of one or more of certain misdemeanors, among others illegal entry and the unlawful carrying of a pistol. The ease with which professional criminals had previously obtained bail had been a matter of much unfavorable comment. The minimum prison term for burglary was raised to 15 years; it had been ten years. It was enacted that persons convicted of a fourth felonious offense should be sentenced to prison for life, and that persons previously sentenced if later found to be fourth offenders should be brought before the Court and, if so found on their own confessions or on jury findings, should be resentenced as fourth offenders. The reduction of terms in State prisons below one year except by executive clemency was for-

bidden. The system of convict parole and commutation of sentence was extensively modified. The changes in the law relative to crime consisted mainly of 25 measures known as the Baumes laws, passed on the recommendation of the Baumes Commission in its report to the Legislature on the subject. A further law was passed creating a new commission of eleven members for a further study of legislation to lessen the prevalence of crime. See **CRIME**.

Among other laws passed in the session was that providing a State board to promote the erection of dwelling places to be let at low cost for the purpose of ameliorating slums. It was designed that the commission should accomplish this through coöperation with private limited-dividend corporations, to operate under State supervision. The Prohibition referendum was put before the voters of the State by the passage of an act of the Legislature. It proposed that the State should address Congress with a request that it alter the Federal enforcement law so as to allow States so choosing to permit traffic in beverages "not in fact intoxicating." See **PROHIBITION**. The State personal income tax was reduced by 25 per cent, and exemptions from it were increased from \$1000 to \$1500 at the minimum and from \$2500 to \$3500 at the maximum. The State direct tax on real estate was reduced by one-third and the taxation of banks was changed from the unpopular basis of a ratio to capital to that of a ratio to income. An issue of \$15,000,000 of State bonds for developing and extending the State park system was allowed.

A constitutional amendment to extend the debt limit of the city of New York in order to enable it to borrow \$300,000,000 for construction of transit lines was passed, but as affecting the constitution, awaited repassage in 1927 and popular ratification. The State engaged itself to build in concert with New Jersey, through the agency of the Board of Port Authority a bridge to span the Hudson River, in the neighborhood of the northern part of Manhattan Island, and rendered available to the Port Authority for this purpose \$1,000,000 a year for five years. See **BRIDGES**. The rent laws, affecting housing and taxation in New York City in particular, were again extended, except as affecting apartments in the higher range of rentals. Salaries of members of the State Court of Appeals were raised to \$25,000 for the associates and \$25,500 for the chief judge. Two bills, providing for a redistricting of the State and for mandatory increases for school teachers' salaries, were passed but killed by the Governor's veto, May 19.

**POLITICAL AND OTHER EVENTS.** At the general election of November 2, Alfred E. Smith, Governor, running for reelection, defeated the Republican candidate, Representative Ogden L. Mills. Heavy pluralities in New York City overcame the Republican vote in the counties outside the city and gave Governor Smith a lead of 247,478 in the entire State vote. The other candidates on the Democratic State ticket were elected likewise, with the exception of the candidate for State Attorney-General, the Republican Attorney-General, Albert Ottinger, being reelected by a plurality of about 14,000 votes. The governorship campaign centred on the issues of expenditure in the State government and of inadequate supervision of the New York City

milk supply, both raised by Mills. Mills demanded that the Governor direct the attorney general to investigate abuses in the city's supervision of the milk dealers. To support allegations that milk below the legal standard was commonly sold, he made public a series of tests performed by a private chemist, who, however, protested thereupon against the interpretation placed by Mills upon his findings.

Robert F. Wagner, Democratic candidate for the six-year term in the U. S. Senate, was elected, defeating the Republican candidate, Senator James W. Wadsworth, Jr., who ran for reelection. Senator Wadsworth was opposed likewise by the Prohibitionist element of his own party, which placed Franklin W. Cristman in the field against him, with the designation of Independent Republican candidate.

A referendum proposal to express the sentiment of voters of the State with regard to modification of the Federal Volstead act resulted in a heavy vote in favor of relaxing alcoholic Prohibition. The vote in favor of modification was approximately 1,763,070, and led by nearly 1,200,000 over the opposing vote. Prohibitionist organizations had taken the view that the referendum was not a proper matter for submission to the voters, and had urged their followers not to vote on it. Forty-two counties supported the referendum and 20 voted against it. More than half a million voters failed to vote on the referendum.

With Governor Smith were elected in November, to take office in January, 1927, the following State officers: Lieutenant-Governor, Edwin Corning; Comptroller, Morris S. Tremaine; Attorney-General, Albert Ottinger. The office of Secretary of State ceased to be an elective office, in virtue of the short ballot adopted in 1926. That of State Treasurer was abolished and not voted for. Benjamin N. Cardozo was elected to be Chief Judge of the Court of Appeals at the retirement of Judge Hiscock under the age limit rule; Henry T. Kellogg was elected an associate judge to succeed Judge McLaughlin.

Governor Smith in a special message to the Legislature on March 8 advocated that the State offer to cede the State Barge Canal to the United States, to be remade into an all-American water route from the Great Lakes to the Ocean. He pointed out that the canal, for which the State issued bonds to the total of some \$155,000,000, had failed in 1925 by more than \$10,000,000 to earn its operating expenses and charges, and that while built to carry 20,000,000 tons a year it had in that year carried but 2,344,013 tons. The proposal to utilize the Barge Canal as the basis of a Federal all-American waterway was studied later in the year by a joint Board of Engineers of the United States and Canada, who reported unfavorably to the Barge Canal route on November 24.

The outgoing Water Power Commission proceeded toward the end of November with preparations to grant important water power concessions to the Frontier Corporation and the American Superpower Corporation. Governor Smith on December 5, apprised the commission that he opposed this action and demanded that time be allowed him to take legal steps against it. The corporations seeking the disputed grants of water power announced two days later the withdrawal of their proposals. The Dollar Gas law, a statute of 1923 prescribing \$1 a thousand cubic

feet as the sale price of gas in the City of New York, was declared confiscatory and therefore void, in a decision of the U. S. Supreme Court, rendered November 28. The question whether the Baumes laws entailed upon judges in criminal trials the necessity of sentencing fourth offenders to life imprisonment arose soon after the going of these laws into force in September. Prior to their becoming operative, the courts were visited by an unusual number of offenders, hastening to plead guilty and obtain the advantage of the lighter sentences still allowed. Later judges manifested in individual cases their unwillingness to impose the life sentence on fourth offenders brought before them. Some fourth offenders were allowed to plead guilty as first or second offenders, and in one of these cases it was discovered by the prison authorities that the man sentenced had other convictions against him. A test was made of his case, a justice of the Brooklyn Supreme Court ruling that the life sentence was obligatory. This decision was appealed. The State Court of Appeals upheld as constitutional, in a decision rendered November 16, the Martin anti-stock fraud law which had been impugned on the ground that it conferred on the Attorney-General judicial powers and that by requiring the submission of records it denied subpoenaed persons the process of law and compelled self-incrimination.

In the City of New York James J. Walker was inaugurated mayor January 1, with a Democratic administration. Governor Smith appointed G. W. Alger May 10 to investigate the State Parole Board, which had incurred criticism by tolerating the irregular liberation from a penal term of a notorious convict, and likewise to investigate the Prison Department and State reformatories. In December Mr. Alger reported unfavorably on the action of the Parole Board in regard to the liberty of the convict. The hundredth anniversary of the opening of the Erie Canal was celebrated October 7. (See CELEBRATIONS.) Delay on the part of the New York City authorities in the formation of a detailed plan for building and operating a municipal or municipally financed third subway system led to action on the part of a State body, the Transit Commission. This commission undertook in December an investigation of the transit situation in New York City, and retained Samuel Untermyer to aid the inquiry, as special counsel.

**OFFICERS.** Governor, Alfred E. Smith; Lieutenant-Governor, Seymour Lowman; Secretary of State, Florence E. S. Knapp; Treasurer, Lewis H. Pounds; Comptroller, Vincent B. Murphy; Attorney-General, Albert Ottinger.

**JUDICIARY.** Court of Appeals: Chief Judge, Frank H. Hiscock; Associate Judges: Benjamin N. Cardozo, Cuthbert W. Pound, Chester B. McLaughlin, Frederick E. Crane, William S. Andrews, Irving Lehman. For various anniversary celebrations, see CELEBRATIONS.

**NEW YORK CENTRAL RAILROAD ANNIVERSARY.** See CELEBRATIONS.

**NEW YORK CITY. ANNIVERSARY OF FOUNDING.** See CELEBRATIONS.

**NEW YORK PHILHARMONIC SOCIETY.** See MUSIC, *Orchestras*.

**NEW YORK SYMPHONY SOCIETY.** See MUSIC.

**NEW YORK UNIVERSITY.** A non-sectarian co-educational institution of higher education in New York City; chartered in 1831. It



comprises the following divisions: at University Heights, College of Arts and Pure Science, College of Engineering, Guggenheim School of Aeronautics; at Washington Square, Graduate School, School of Law, School of Commerce, Accounts, and Finance, Washington Square College, School of Retailing, School of Education, University Extension Division, Institute of Education; at Wall Street Division, Graduate School of Business Administration, and courses in the Schools of Commerce, Accounts, and Finance, and of Retailing; the Medical College, on 23d Street; and the Dental College, on 26th Street. The summer session is held at Washington Square. The enrollment for 1926 was 26,813, distributed as follows: College of Arts and Pure Science, 771; College of Engineering, 390; School of Commerce, 7190; School of Law, 1877; Washington Square College, 3977; Graduate School, 248; School of Education, 1427; Fine Arts, 1048; School of Retailing, 484; Institute of Education, 2627; University and Bellevue Medical College, 430; College of Dentistry, 491; Graduate School of Business Administration, 347; University Extension Division, 3364. The registration for the summer session was 3946. The faculty of the University numbered 1170. The productive funds for the year 1925-26 amounted to \$3,741,867, and the income to \$4,109,033. The libraries contained 230,413 volumes.

During the year 1925-26 there were 26 appointments or promotions to professorial rank in the faculty; 17 of these being to the rank of full professor. New courses established included: a graduate course in aeronautical engineering; a division of instruction in architecture; a summer school of fine arts at the Louvre, Paris; new post-graduate courses in medicine and dentistry; fine arts courses in printing, and furniture, jewelry, and costume design; courses in home-making and home economics education; and a course in accident prevention. In coöperation with the Investment Bankers' Association of America, an Institute of International Finance was established by the University, in connection with the Wall Street branch. During the year the Nichols Chemistry Building at University Heights, costing \$600,000, was under construction, to be completed in the spring of 1927. The Guggenheim Aeronautics Building was also erected and occupied during the year, at a cost of over \$200,000. For the School of Commerce, a new home was provided in the autumn of 1926 in the form of a ten-story building on Washington Square, costing over \$1,350,000. In the spring of 1926 a financial programme was launched, as a part of the general plan for celebrating the centennial of the University, 1931-35. This called for a total of \$73,000,000 to be raised by a "Centennial Fund" organization, which was to be representative of the constituency served by the University. Chancellor, Elmer Ellsworth Brown, Ph.D., LL.D.

**NEW ZEALAND**, 28<sup>th</sup> land, DOMINION OF. A self-governing British dominion in the southern Pacific Ocean, about 1200 miles east of Australia; consisting mainly of two islands, North and South Islands; but comprising also Stewart Island and a number of small islands. Capital, Wellington.

**AREA AND POPULATION.** The total area excluding the annexed islands is 103,568 square miles, distributed as follows: North Island, 44,130; South Island, 58,120; Stewart Island, 662; Chat-

ham Islands, 372; outlying islands, 284. According to the census of 1921 the population was 1,218,913. The estimated population, June 30, 1925, 1,327,362, exclusive of Maoris, 54,574, and residents of Cook and other annexed islands, 13,879, and of Western Samoa (mandated territory), 38,230. The movement of population in 1924 was: Births, 28,014; deaths, 10,767; marriages, 10,259. New Zealand's great problem like that of Australia, is the securing of suitable immigrants. To this end the New Zealand government coöperates very closely with Great Britain, as it is the policy of the Dominion to restrict its immigrants, so far as possible, to British stock and the policy of Great Britain to keep its emigrants within the Empire. In carrying out these policies both countries lend material aid as well as encouragement to prospective migrants of British stock, and special inducements are offered to approved farm laborers, domestics, and miners, the classes most needed in the Dominion. A report issued by the census office in Wellington during 1926, indicates that the activities of the immigration bureau are meeting with considerable success. During 1925 persons arriving in New Zealand from overseas, including crews of vessels, numbered 90,069, and departures 77,267, making a net gain of 12,802 for the year as compared with 9675 for the preceding year. During 1925 births throughout the Dominion numbered 28,173 and deaths 11,026, making the net natural increase 17,147, or about one-third more than the increase from immigration. The estimated population of the chief cities of New Zealand on April 1, 1925, was as follows: Auckland, 180,790; Wellington, 118,490; Christchurch, 118,270; Dunedin, 77,480.

**EDUCATION.** Education is compulsory between the ages of seven and 14. At the end of 1924 there were 2574 public primary schools, with 7140 teachers, 216,190 scholars enrolled, and an average attendance of 193,305. The native schools numbered 125 with 272 teachers and 6310 pupils. For secondary education there were 37 incorporated schools with 493 teachers and 12,010 pupils. The University of New Zealand is solely an examining body. There are four affiliated colleges as follows: Otago University, Dunedin; Canterbury College, Christchurch; Auckland University College; and Victoria University College, at Wellington. The total number of students in 1924 was 4236.

**PRODUCTION.** Late in 1926 *Commerce Reports* published the latest official estimate of the private wealth of New Zealand, which was placed at £744,609,000, or about £553 per capita. This is \$2691 per person for the entire country, as compared with \$2575 in Canada, about \$2000 in Great Britain, and \$2918 in the United States. Because of the wide distribution of the Dominion's wealth, the actual per capita purchasing power of the country is very high, as shown by the large number of automobiles and other articles of relatively high unit cost in use there. New Zealand has one car for every 14 persons, as compared with one for every 55 in the United Kingdom and one for every six in the United States.

About two-thirds of the surface of New Zealand is suitable for agriculture and grazing. In 1925 the acreage under cultivation was 18,510,558 and the number of persons engaged in agricultural, pasturage, and dairying pursuits was 142,742. The chief crops with their acreage,



production and yield per acre in 1925 were as follows: Wheat, 166,964 acres, 5,448,000 bushels, 32.92 bushels per acre; oats, 147,387 acres, 5,707,000 bushels, 38.72 bushels per acre; barley, 25,138 acres, 798,000 bushels, 31.75 bushels per acre. The livestock in the same year numbered: Horses, 326,830; cattle, 3,503,744; sheep, 24,547,955; and pigs, 440,115. The wool exported or used for home consumption during the year ending Sept. 30, 1924, was 218,261,058 pounds. The chief minerals are coal, gold, and silver. The quantity mined and the value in 1924 was as follows: Coal, exported, 88,981 tons (£161,432), consumed, 1,994,226 (£1,994,226); gold, 133,631 ounces (£551,788); silver, 578,217 ounces (£71,981). Industrial statistics for 1924 were as follows: Establishments, excluding mines and quarries, 4461; hands employed, 67,945; value of lands, buildings, etc., £45,498,054; estimated produce, £76,996,397. The chief industries in point of value of production were butter and cheese

later period there was a decrease in value of £6,047,679. Butter, another of the country's important products, brought £2,747,505 less than in 1924-25, the quantity having decreased 271,294 hundredweight. Oversea shipments of cheese, dried and preserved milk, frozen beef, lamb and mutton, hides and sheepskins all showed considerable declines in both quantity and value. Exports of sausage casings, although only slightly greater in quantity in the later year, reflected an encouraging improvement in prices. The year 1925-26 was a record one for the production of apples. Exports of the fresh fruit increased from 8,499,323 pounds in 1924-25 to 27,834,824 pounds in 1925-26—a gain of more than 300 per cent. Exports of New Zealand potatoes represented a tremendous gain—10,254 tons, as compared with 985 in 1924-25. The accompanying table shows the exports of the principal items of the Dominion's produce for the two periods, both by quantity and by value:

PRINCIPAL ITEMS IN NEW ZEALAND'S EXPORT TRADE

Item	Quantity		Value	
	1924-25	1925-26	1924-25 £	1925-26 £
Butter . . . . . hundredweight	1,362,240	1,090,946	11,705,541	8,958,086
Casein . . . . . do	54,294	39,438	183,812	104,060
Cheese . . . . . do	1,481,724	1,899,925	6,208,553	6,073,638
Fish . . . . . do	19,865	16,633	63,070	61,684
Meat, frozen:				
Beef . . . . . do	658,922	511,137	926,074	717,584
Lamb . . . . . do	1,552,831	1,492,030	6,833,007	5,783,294
Mutton . . . . . do	1,075,580	951,331	2,945,430	2,433,451
Other frozen meat . . . . . do			337,256	305,362
Beef, salted . . . . . hundredweight	7,074	5,816	13,226	11,891
Meats, potted and preserved . . . . . do	62,996	68,048	188,418	244,275
Sausage skins . . . . . pounds	3,208,369	3,311,825	674,757	745,528
Milk, dried and preserved . . . . . do	16,270,700	12,187,920	557,245	384,767
Beans and peas . . . . . centals	99,272	162,956	85,765	124,514
Oats . . . . . do	1,502	5,881	953	8,533
Wheat . . . . . do	578	464	893	327
Apples, fresh . . . . . pounds	8,499,323	27,834,824	116,062	362,264
Hotatoes . . . . . do	215,444	411,674	14,214	21,604
Potatoes . . . . . tons	985	10,254	7,536	85,433
Livestock . . . . . number	4,504	3,922	121,196	117,047
Hides and skins:				
Calfskins . . . . . do	742,939	693,752	244,049	223,366
Hides, horse and cattle . . . . . do	527,804	436,919	711,448	583,911
Rabbit skins . . . . . do	20,163,368	18,371,251	781,617	802,512
Sheepskins with wool . . . . . do	578,285	507,934	306,239	204,920
Sheepskins without wool . . . . . number	8,702,068	7,670,250	1,746,716	1,260,948
Wool . . . . . bales	574,189	618,989	18,087,864	12,030,185
Phormium fibre . . . . . tons	15,978	17,559	505,754	543,245
Seeds, grass, and clover . . . . . hundredweight	48,074	45,259	134,926	165,994
Tallow . . . . . tons	25,147	23,688	826,770	844,800
Coal . . . . . do	136,120	134,452	238,638	218,283
Kauri gum . . . . . do	5,770	4,849	453,956	361,875
Gold . . . . . ounces	115,925	119,253	477,897	491,055
Silver . . . . . do	578,979	472,814	71,159	58,078
Leather . . . . . do			8,867	8,331
Timber, sawn . . . . . superficial feet	45,255,129	47,097,820	520,092	548,871
Other New Zealand produce . . . . . do			576,835	619,382
Total, New Zealand produce . . . . . do			56,625,345	45,504,048
Reexports . . . . . do			824,631	832,799
Total exports . . . . . do			57,449,976	46,336,847

making, meat freezing and preserving, sawmills, printing and bookbinding, grain mills, and clothing and waterproof factories.

COMMERCE. According to the United States Bureau of Foreign and Domestic Commerce, New Zealand's foreign trade figures for the year ending June 30, 1926—exports, £46,336,847, imports, £52,157,702—reveal a marked decrease in totals compared with the corresponding period for 1924-25, when exports amounted to £57,450,000 and imports were valued at £50,898,485. The outstanding feature of the export trade was the decline in returns from New Zealand wool exported in 1925-26, as compared with 1924-25. Although 44,700 more bales were exported in the

FINANCE. The budget for the fiscal year 1925-26 was presented to the House of Representatives on July 24, 1925. It estimated revenues at £29,600,000 and expenditures at £29,024,616. Accompanying are the items of revenues in detail:

NEW ZEALAND ANTICIPATED REVENUES FOR 1925-26

Customs . . . . .	£7,800,000
Beer duty . . . . .	630,000
Stamp and death duties . . . . .	3,340,800
Postal and telegraph . . . . .	3,046,000
Land tax . . . . .	1,250,000
Income tax . . . . .	3,350,000
Railways . . . . .	7,700,000
Registration and other fees . . . . .	190,000
Marine . . . . .	104,800

NEW ZEALAND ANTICIPATED REVENUES FOR  
1925-26—Continued

Interest on public moneys .....	1,190,000
Local Bodies' Loans Act, 1908, section 76 .	22,000
Rents of buildings .....	24,000
Tourist and health resorts .....	58,000
Miscellaneous .....	56,000
Territorial .....	212,000
Department and other receipts .....	681,400
<b>Total .....</b>	<b>29,600,000</b>

The gross debt on Mar. 31, 1925, was £227,814,647.

COMMUNICATIONS. At the end of 1924 the registered vessels numbered 564 of 114,370 tons. In the same year the number of vessels entered was 713 of 2,212,955 tons; cleared, 706 of 2,227,207 tons. The New Zealand government railways, according to the report of the minister of railways, for 1926, earned £1,992,334, which was reduced after interest had been charged off and also appropriations for betterments, to an unappropriated surplus of £21,023. This later figure compares with a deficit of £87,736 in 1925. The percentage of net earnings for capital invested was 4.35 as against 3.55 in 1925. The operating ratio was 76.45 in 1926 as compared with 78.46 in 1925. The New Zealand railways reported 3138 miles open for traffic in 1926 as against 3085 miles open for traffic in 1925.

One of the most important events in the history of the New Zealand Government Railways was the freeing of financial operations from the consolidated funds of the government and placing them under what is known as the "Working Railways Account." This account is used as a commercial railway would use it, for operation, maintenance, and for reinvestment of unused moneys. Under the old system no one knew exactly how much the New Zealand Railways were costing or profiting the Dominion as a commercial venture, as all financial operations went into or out of the consolidated government revenues and at times were charged or credited to entirely different accounts, for various reasons. Under the new system the railways are made responsible for the earning of every penny expended, including superannuation and interest on fixed capital. Temporary loans from the consolidated fund are available in case of necessity. As all new lines are delivered to the railway department by the department of public works, on a working basis after a test period, a basic capital value has been determined for the railway department in each case. All service by the railways to other government departments and as operator for the state of nonpaying development lines are handled on a cash basis and a revenue therefore is collected from the departments and the government. The railways have not been relieved of parliamentary control, much to the disappointment of the "commission system" adherents. Estimates must still be handled by Parliament, and appropriations made annually specifying the expenditures to be made out of the account for working railway purposes.

GOVERNMENT. Executive power is vested in a governor-general and legislative power in the governor-general and a general assembly of two houses, namely the Legislative Council of 38 members (September, 1925) appointed for seven years but to be elected after the expiration of the terms of the members sitting in 1923, and the House of Representatives, consisting of 80 members, elected by the people for three years. The

governor-general in 1926 was Gen. Sir Charles Fergusson. The cabinet was constituted as follows: Prime Minister, Minister of Public Works, Railways, Native Affairs, etc., J. G. Coates; Attorney-General, Minister of External Affairs, etc., Sir Francis Bell; Customs, Industry and Commerce, W. D. Stewart; Minister of Finance, Agriculture, Immigration, etc., W. Nosworthy. Education, Justice, Postmaster-General, Sir C. J. Parr; Labor, Mines and Marine, Pensions, G. J. Anderson; Lands, etc., A. D. McLeod; Defense, etc., Sir R. H. Rhodes; Health, Sir M. Pomare; Internal Affairs, R. F. Bolland.

No outstanding event was reported in the press during the year from New Zealand. For a discussion of the British Imperial Conference see GREAT BRITAIN, *History*.

NICARAGUA, ne'ka-rá'gwá. The largest of the Central American republics. It is bounded on the north by Honduras, on the east by the Caribbean Sea, on the south by Costa Rica, and on the west by the Pacific Ocean, Capital, Managua.

AREA AND POPULATION. The area is estimated at about 49,200 square miles; population, according to the census of 1920, 638,118, or about 14 inhabitants to the square mile. The coast line is 300 miles on the Atlantic and 200 miles on the Pacific. The population consists almost entirely of Indians and negroes and mixtures of the two with white blood. The proportion of pure white blood is about 10 per cent. About 75 per cent of the population lives in the western half of the country. The eastern and western sections differ greatly and there is very little communication between them, the journey by trail and river being difficult. Travelers going from one coast to the other usually go by way of Costa Rica or through the Panama Canal. In the western section the people are of mixed Spanish and Indian blood, although there are quite a number of Nicaraguans of pure Spanish descent. In the eastern half, in which are the banana plantations, there is a considerable representation of Negroes from the West Indies, also natives of mixed Negro and Indian blood. The capital, Managua, had an estimated population of 60,000 in 1926. Other large towns with their populations in 1926 are: Leon, the former capital, 47,000; Chinandega, 14,415; Granada, 15,000; Masaya, 20,000; Matagalpa, 12,000; Rivas, 10,000.

EDUCATION. According to the latest available statistics (1924), there were 402 state elementary schools, with 788 teachers and 24,800 pupils; three secondary schools, with 37 teachers and 259 pupils; 5 professional schools with 219 students; 3 normal schools with 35 teachers and 222 students; 76 private schools (elementary) with 5557 pupils. For higher education there are the Central University at Managua; the Western and Northern University at Leon; and the Eastern and Southern University at Granada. From 50 to 75 per cent of the people are classed as illiterate, chiefly because much of the money originally appropriated for education is spent for war purposes in connection with the many revolutions that have convulsed the country.

PRODUCTION. The chief sources of national wealth are agriculture, timber, and mining. The development of agriculture has been hampered somewhat by the lack of labor. The banana is the chief product of the eastern part of the country. The foodstuffs for the inhabitants have to be

imported, chiefly from the United States. In the western part the principal crops are coffee, sugar cane, cacao, corn, and beans, the average coffee crop being estimated at 22,500,000 pounds. The western part of the country raises most of its own foodstuffs and occasionally has a surplus for export. There are valuable forest woods, especially mahogany and cedar, which enter into the exports; also dye woods, gum, and medicinal plants. The mineral resources include gold, silver, copper, and precious stones.

**COMMERCE.** The total trade of Nicaragua for the year 1925 amounted to \$22,735,876, of which \$10,376,291 represented imports and \$12,359,585 exports. In 1924 the imports were \$8,806,896 and the exports \$12,990,026, or a total of \$21,796,922. There was, therefore, an increase in imports of \$1,569,395, a decrease in exports of \$630,441, or a net increase in the total foreign trade of \$938,954. The accompanying tables show the imports and exports by value for 1924 and 1925:

**IMPORTS BY PRINCIPAL ARTICLES FOR THE YEARS 1924 AND 1925**

Articles	1924	1925
Cement .....	\$33,608	\$24,872
Chemicals, drugs, and medicines .....	374,620	459,980
Cotton goods .....	2,504,670	2,669,589
Fibers, vegetable, manufactures of .....	218,490	293,332
Food products:		
Coffee .....	12,672	13,864
Fish and products .....	68,918	74,659
Flour, wheat .....	489,294	538,132
Fruits and products .....	62,597	74,850
Indian corn .....	15,432	12,987
Meat and dairy products .....	114,494	137,237
Rice .....	115,638	92,384
Sugar .....	79,376	30,012
Vegetables and products .....	144,936	174,182
All other .....	241,987	319,900
Gasoline .....	154,677	169,538
Hides and skins and manufactures .....	244,937	365,573
Iron and steel manufactures .....	676,727	682,245
Liquors, wines, and other beverages .....	176,822	280,210
Paper and manufactures of .....	124,453	155,857
Petroleum .....	160,481	146,921
Silk goods .....	202,609	349,032
Woolen goods .....	95,231	164,980
All other imports .....	2,544,227	3,145,955
<b>Total .....</b>	<b>8,806,896</b>	<b>10,376,291</b>

**STATEMENT SHOWING VALUE OF PRINCIPAL ARTICLES EXPORTED DURING THE YEARS 1924 AND 1925**

Articles	1924	1925
Bananas .....	\$1,706,779	\$1,736,053
Beans .....	5	7,270
Cacao .....	12,212	27,112
Coconuts .....	29,149	43,853
Coffee .....	7,321,784	5,627,133
Corn .....	28,996	54,770
Cotton .....	121,513	69,516
Gold .....	771,975	586,268
Hides and skins .....	194,133	219,452
Lard .....	3,213	27,044
Rubber .....	3,774	92,203
Silver .....	155,123	78,481
Sugar .....	1,015,298	1,559,165
Wood:		
Cabinet .....	1,253,517	1,853,035
Dyewoods .....	39,126	57,758
All other .....	334,029	320,522
<b>Total .....</b>	<b>12,990,026</b>	<b>12,359,585</b>

**FINANCE.** The latest statistics on finance are those for 1924 when the total receipts amounted to \$2,211,706 as against \$2,097,286 in 1923. Customs collections were \$1,261,349 and \$1,005,000

and internal revenue collections \$926,323 and \$999,310, respectively. The remainder was made up from consular fees and miscellaneous sources. Budget expenditures amounted to \$1,580,000, the same as for 1923. The public debt on Mar. 31, 1925, was \$7,390,590.

**COMMUNICATIONS.** In 1924 1421 vessels of 741,916 tons entered the ports of Nicaragua and 1412 of 737,969 tons cleared. The total railway mileage in the country in 1926 was 172 miles. In 1924 the government repurchased the 51 per cent of the stock of the national railways, which it had turned over to American banking firms in 1913.

**GOVERNMENT.** Executive power is vested in a president who acts through a responsible ministry, comprising departments of foreign affairs and public instruction, finance, interior, justice and police, war and marine, and public works; legislative power is in a bicameral legislature consisting of a chamber of 40 deputies elected for four years by universal suffrage, and a senate of 13 members elected for six years. For the changes in the presidency during 1926 see paragraphs on History, below.

**HISTORY.** The year witnessed an almost continual period of revolutionary activity, which towards the close was further complicated by the intervention of United States Marines on the side of the Conservative Party led by Diaz. As noted in the preceding YEAR BOOK, General Emiliano Chamorro executed a coup d'état in October, 1925, which virtually ended the term of office of the constitutionally elected president, Carlos Solórzano, a Conservative, and Juan Bautista Sacasa, the Liberal Vice-President. From the time of the coup d'état until January, 1926, Solórzano continued to act as president although the entire world knew that his position was a mere sham and depended entirely upon the whims of Chamorro. Vice-President Sacasa, fearing the motives of Chamorro, fled to Mexico. Congress met and ordered him to return to Nicaragua and face certain charges which were filed against him, but he refused for reasons which were quite obvious. Thereupon at the supposed request of Chamorro, Congress declared the position of vice-president vacant. He was laying plans for the selection of himself as president in as constitutional a manner as possible in order to get the support of the United States which had always maintained that it would withhold recognition from governments in Central America which were not duly and constitutionally elected.

On Jan. 13, 1926, Chamorro became Secretary of War, and, with the support of the army behind him, compelled Congress to declare the election of several senators and deputies illegal and to seat the defeated candidates in their places. Another step he took was to have himself elected a senator in order to meet the requirements of the constitution concerning presidential succession. According to the provisions of that instrument if the president and vice-president resign or go out of office a "First Designate" is appointed from the Senate to control the executive office. It might be said in passing that Chamorro's election to the senatorship was in itself unconstitutional because at the time of his election he was General-in-Chief of the army, which made him ineligible for the position of senator.

On January 15, in accordance with Chamorro-

ro's plans, President Solorzano resigned from office, and, as noted above, Chamorro was in position to have himself named chief executive. The entirely subservient Congress bowed to his demands and named him for the place of chief executive. The success of his move now depended to a large extent upon the attitude which would be taken by the United States. On January 19, Chamorro notified Secretary of State Kellogg of the change in government. On January 25, Mr. Kellogg replied that "the government of the United States has not recognized and will not recognize as the Government of Nicaragua the régime now headed by General Chamorro, as the latter was duly advised on several occasions by the American Minister after General Chamorro had taken charge of the citadel at Managua on October 25 last. This action is, I am happy to learn, in accord with that taken by all the Governments that signed with Nicaragua the Treaty of 1923." During the remainder of Chamorro's stay in power which ended on October 30, the United States firmly adhered to its policy of non-recognition.

The Liberals under the leadership of the deposed Vice-president Sacasa, started a revolution in the early part of May which resulted in the capture of the important seacoast town of Bluefields on the Caribbean. The interference by the Liberals with American business firms was the signal for the landing of United States Marines at Bluefields and the declaration by Admiral Latimer of a neutral zone in and around the city. Chamorro was able to reconquer the territory which had fallen into the hands of the Liberals by the end of the month and the American marines withdrew early in June. The leading Liberals withdrew to Guatemala after their abortive attempt to wrest the reins of government from Chamorro and were joined there by Sacasa who had been working for the Liberal cause in the United States. Charges that the Mexican government was giving aid to the Guatemalan junta were vigorously denied from Mexico City.

In August the revolution broke out again, and once again American marines were landed at Bluefields to protect American lives and property, mostly property, according to the editorials in many of the leading opposition papers in the United States. From this point on the United States government through Admiral Latimer took virtual charge of affairs in Nicaragua. The admiral secured an armistice in the latter part of September for the purpose of attempting to adjust the difficulties between Chamorro and the Liberals. Nothing came of the attempts at settlement, however, and sporadic fighting continued throughout the armistice period. On October 16 a conference was held at Corinto, the chief port of the Pacific coast of the republic. It was brought about through the good offices of the United States and was supposed to iron out the difficulties between the warring factions. From the beginning it was doomed to failure because of the Conservative demand that if Chamorro resigned, his place should be filled by another Conservative, while the Liberals maintained that the office of presidency rightfully belonged to Juan Sacasa. The conference ended its conversations on October 24 and six days later General Chamorro resigned his office and left the power in the hands of Senator Uriza. The United States refused to recognize his control and he called a

special session of the legislature to elect a successor in a constitutional manner.

On November 11, Congress elected to the presidency, Senator Adolfo Diaz, a Conservative. Upon his inauguration he sent a note to the United States requesting its guidance, coöperation, and aid in restoring peace and order. He declared that he could easily control the situation if it were not for the hostile attitude of the Government of Mexico, which also imperiled the interests of Americans and foreigners in Nicaragua and threatened what he described as the "continental equilibrium," and at the conclusion of his note he said, "I desire to manifest to you at the same time that whatever may be the means chosen by the Department of State, they will meet with the approval of my absolute confidence in the high spirit of justice of the Government of the United States." Two days later the Diaz régime was recognized as the constitutional government of Nicaragua by the United States and an attempt was made by Admiral Latimer to bring about a settlement of the difficulties by a conference aboard the U. S. S. *Rochester*. Nothing was accomplished.

The close of the year witnessed two rival governments in Nicaragua, that of President Diaz and that of Dr. Sacasa, who was nominated "Constitutional" President of the republic at Puerto Cabezas by the Liberal revolutionists on December 2. The Sacasa government was recognized by Mexico, which gave rise to many protests from Diaz that the Mexican government was behind the Liberal movement and that if the United States did not intervene to protect him he would not be able to hold out against the Liberal revolutionaries aided and abetted by Mexico. The Mexican government called the Diaz charges too absurd for official comment. On December 23, American marines were landed at the rebel capital, Puerto Cabezas, and a neutral zone was established which virtually compelled the disarming of the Liberal Army. Dr. Sacasa denounced this action on the grounds that it was armed intervention on the side of the Diaz government, and that the excuse of protecting the lives and property of Americans was too flimsy for credence. The action of the United States government was assailed in many American newspapers and called forth caustic comments from Senators Moses and Borah of the Foreign Relations Committee of the Senate. Senator Borah saw in the move an attempt to embroil the United States in a war with Mexico, as well as a definite plan not only to protect but to promote business. He claimed that "a large part of the Nicaraguan revolution is being instigated and directed from Washington and for business reasons . . . by business interests." As if in answer to Borah it was announced from the White House at the close of the year that the ordering of the landing of the marines in Nicaragua had no other object than the protection of American life and property.

**NICHOLS MEDAL.** See CHEMISTRY, INDUSTRIAL, under *Medals*.

**NIGERIA, COLONY AND PROTECTORATE OF.** A West African territory, belonging to Great Britain, divided into two groups of provinces, known respectively as the Northern and Southern Provinces. The area is approximately 335,700 square miles and the population, according to the census of 1921, 18,070,668, of whom 9,998,314 were in the Northern Provinces (area, 258,000 square

miles). There were 3900 Europeans in 1921. For administrative purposes the mandated territory of Cameroons is attached to Nigeria. The seat of government is at Lagos. In 1924 in the Northern Provinces there were 50 government schools and 104 unassisted private schools, the total average attendance in the government schools being about 2063. It was estimated that there were more than 28,000 Mohammedan schools, with about 316,000 pupils. In the Southern Provinces in the same year there were 43 government schools with an average attendance of 6674; 188 assisted schools with an enrollment of 34,928; 2705 unassisted schools, with an enrollment of 119,551. The chief products are palm kernels, palm oil, rubber, peanuts, animal products, shea-butter, ivory, cacao, kola nuts, coffee, drugs, and tobacco. The forests supply mahogany, which is exported. Iron, lead, and tin are worked by the natives, and gold, silver, lignite, monazite, galena, and manganese ore are found. The imports in 1924 were valued at £12,921,337 and the exports £15,038,077. The chief article of import was manufactured goods and the chief articles of export, palm oil and palm kernels. The total shipping which entered and cleared from the ports of Nigeria was 2,193,905 tons of which 1,344,099 was British. The revenue in 1924-25 was £6,944,220 and the expenditure £5,768,715; public debt, £19,309,210. Railways open for traffic in 1926 totaled 1265 miles. The administration is in the hands of a governor and an executive and legislative council. Governor, Sir G. Thompson.

**NIPHER, FRANCIS EUGENE.** American physicist, professor emeritus at Washington University, St. Louis, Mo., died at St. Louis, October 7. He was born in 1848 at Byron, N. Y., and graduated from the University of Iowa in 1870, taking his Master of Arts degree three years later in the same university. After teaching at his alma mater in 1874 he went to Washington University at St. Louis, as Professor of Physics. He early turned his attention to the phenomena of electricity, and was led to the support of Franklin's one-fluid theory, declaring that there was no such thing as a positive current of electricity; what was generally so termed, he asserted, was merely an inflow from the negative terminal. His experiments proved that the variations in the magnetic needle and also magnetic storms are due to solar radiation, modified by earth shadows, cloud shadows, wind and rain. In addition to membership in many learned societies he was a research associate of the Carnegie Institution of Washington. In 1890 he was president of the Engineers Club of St. Louis. He became professor emeritus at Washington University in 1914, when he gave up teaching. However, he kept up his research work right through the period of his retirement, and experimented till the end. He wrote *Theory of Magnetic Measurements* (1886); *Electricity and Magnetism* (1895); *Introduction to Graphical Algebra* (1898); and *Experimental Studies in Electricity and Magnetism* (1914).

**NITROGEN.** See CHEMISTRY, INDUSTRIAL; FERTILIZERS.

**NOBEL PRIZES.** The year 1926 marked the quarter century anniversary of the first award of the Nobel Prizes, and in addition to the 1926 awards those that were withheld in 1925 were announced. In chemistry, the 1925 prize went to Prof. Richard Zsigmondy of the Uni-

versity of Göttingen, who was known for the development of the ultramicroscope, which he employed in determining the size of the minute suspended particles of colloidal gold. The 1926 prize in chemistry was awarded to Dr. The Svedberg, known for his work in the field of colloidal chemistry. In physics the 1925 prize was divided between Dr. James Franck of the University of Göttingen and Dr. Gustave Hertz of the University of Halle, for work done when they were associated at the University of Berlin. Theirs was the first proof of the value of the quantum theory proposed originally by Max Planck. The 1926 prize in physics went to Prof. Jean Baptiste Perrin for his researches on the Brownian movements where the rapid oscillatory motion of minute particles suspended in liquids was involved.

The 1925 prize in literature was awarded to George Bernard Shaw of England on the recommendation of the Swedish Academy, it being the fourth time that the award had been given to an author writing in English, the other three being Rudyard Kipling in 1907, Sir Rabindranath Tagore in 1913, and William Butler Yeats in 1923.

The scientists mentioned above received their medals and diplomas from King Gustaf at Stockholm on December 10, but Mr. Shaw was unable to be present and the gold medal and diploma were received on his behalf by the British minister.

The distribution of the Nobel Peace Prize for 1925-26 was made at Oslo, Norway, on December 10, in the Hall of the Nobel Institute, in the presence of King Haakon, Crown Prince Olaf, members of the Government, and the Diplomatic Corps. Professor Stang, rector of the University of Oslo and president of the Nobel Peace Prize Committee, announced that the Peace Prize for 1925 would be divided between Aristide Briand of France and Dr. Gustave Stresemann, German Foreign Minister, and the Peace Prize for 1926 between Sir Austen Chamberlain, British Foreign Secretary, and General Charles G. Dawes, Vice-President of the United States. These awards were received with universal approval throughout the world. In the United States General Dawes announced that he would turn over the money award to the Walter Hines Page School of International Relations. See PHYSICS.

**NOLAN, PROFESSOR THOMAS.** American architect and educator, professor of architectural construction at the University of Pennsylvania, died at Moylan, Pa., September 6. He was born at Williamsport, Aug. 4, 1857, and graduated from the University of Rochester in 1879. Later he studied at Columbia University and at L'Ecole des Beaux Arts in Paris. Returning to America to practice architecture in Rochester, he designed the Rochester Chamber of Commerce Building, the first steel skeleton structure in Western New York. In 1898 he went to the University of Pennsylvania as instructor in Architecture, and was made Assistant Professor in 1904, being advanced to a full professorship in 1911. He wrote treatises on building construction and architectural engineering, and was Editor-in-Chief of Building Construction and Superintendent Editor of the *Kidder-Nolan Architects' and Builders' Handbook*.

**NORTH CAROLINA.** POPULATION. According to the Fourteenth Census, the population of

the State on Jan. 1, 1920, was 2,559,123. The estimated population on July 1, 1926, was 2,858,000. The capital is Raleigh.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	2,023,000	1,250,000 *	
	1925	2,060,000	1,102,000 *	
Tobacco	1926	574,000	893,190,000 <sup>b</sup>	\$103,802,000
	1925	547,000	880,165,000 <sup>b</sup>	87,438,000
Corn	1926	2,376,000	52,272,000	45,999,000
	1925	2,400,000	44,400,000	48,840,000
Hay, tame	1926	758,000	686,000 *	13,720,000
	1925	710,000	481,000 *	10,582,000
Peanuts	1926	194,000	190,120,000 <sup>b</sup>	7,885,000
	1925	185,000	212,750,000 <sup>b</sup>	8,297,000
Wheat,	1926	447,000	6,303,000	9,013,000
	winter	1925	406,000	4,466,000
Potatoes	1926	74,000	7,400,000	11,840,000
	1925	58,000	4,524,000	8,143,000
Sweet	1926	84,000	7,560,000	7,560,000
	potatoes	1925	80,000	8,448,000
Oats	1926	310,000	6,820,000	4,706,000
	1925	258,000	4,902,000	3,726,000
Rye	1926	104,000	1,852,000	1,690,000
	1925	80,000	920,000	1,444,000

\* bales, <sup>b</sup> pounds, \* tons.

**MINERAL PRODUCTION.** Clay products, furnishing the largest item in the total of the State's mineral output, were produced to the value of \$4,000,431 in 1924, as against \$3,650,452 in 1923. There were produced 1,340,840 short tons of stone in 1924 and in 1923, 1,307,460 short tons; in value, \$3,133,510 in 1924 and in 1923 \$3,579,351. This did not include talc and soapstone, both produced in commercial quantity. Among other products were sand and gravel, feldspar, coal and mica. Gold production, though small, rose in 1925. The value of the gold produced in North Carolina during the period 1799 to 1925 was \$23,658,441, according to the U. S. Bureau of Mines. The yield of gold increased from \$4540 in 1924 to \$18,540 in 1925, although very few mines were active, and the increase was due entirely to work at the Rich Cog mine at Reidsville, in Montgomery County. None of the deep gold mines in Cabarrus, Moore, Davidson, or Guilford Counties was worked in 1925. The State's total mineral production was \$9,621,467 in 1924; in 1923, \$10,020,559.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$16,679,744. Their rate per capita was \$6.09, as against \$5.79 in 1924 and \$1.96 in 1917. Their total included \$1,842,788, for education, apportioned among the minor State divisions. Expenses amounting to \$26,051 for public service enterprises, \$4,421,994 for interest on debt and \$26,296,950 for permanent improvements, added to the payments for maintenance and operation of the State departments, made the total of State payments \$47,424,739. For highways was expended the sum of \$25,212,575, of which \$3,310,684 was for maintenance and \$21,901,891 for construction.

Revenue receipts of the State were \$28,416,461, or \$10.37 per capita. They exceeded by \$7,288,672 the total payments except those for permanent improvements, and were \$10,008,278 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 18.5 per cent of the revenue

in 1925, as against 27 per cent in 1924 and 50 per cent in 1917. Their rate per capita was \$1.92 in 1925, \$2.10 in 1924 and \$1.20 in 1917. General property tax receipts were limited to those from old delinquencies. Earnings of the departments and compensation for officials' services furnished 11.2 per cent of the 1925 revenue; business and non-business licenses, 49.3 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$91,646,408, or \$33.44 per capita, as against \$25.28 in 1924 and \$3.85 in 1917. The assessed valuation of property subject to State tax was not made, there being no general property tax levy in 1925.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 5347. There was constructed in 1926 4 miles of new second track.

**EDUCATION.** The State loaned to 76 counties, according to A. T. Allen, State superintendent of instruction, \$5,000,000 to further 95 projects for the building of rural school houses. Another total of \$5,000,000 was reported as having been voted for school houses by cities within the State. The school population in the academic year 1925-26 was given as 957,016. There were enrolled in the public schools of the State 818,793 pupils, of whom 737,188 were enrolled in common schools and 81,605 in high schools. Expenditure for education during the year, exclusive of debt service, totaled \$32,443,426. Salaries of teachers averaged \$103.78 a month.

**CHARITIES AND CORRECTIONS.** The State Board of Charities and Public Welfare had been active, since its organization in 1917, in creating a system of public welfare with the county as its basis. The executive officer elected by the Board, and bearing the title of Commissioner of Public Welfare, directs work through administrative divisions of child welfare, institutions, county organization, mental health and hygiene, education and publicity, and negro work. The institutions under the supervision of the Board in 1926, with their inmate populations, were as follows: State Hospital for the Insane, Raleigh, 1491; State Hospital for the Insane, Morganton, 1785; State Hospital for the Colored Insane, Goldsboro, 1557; Caswell Training School for Mental Defectives, Kinston, 406; North Carolina Sanatorium, at Sanatorium (85 beds); Stonewall Jackson Training School (white boys), Concord, 415; State Home and Industrial School for Girls, Samarcan Manor, 209; Morrison Training School for Negro Boys, Hoffman, 60; Eastern Carolina Training School for boys, Rocky Mount, 12; State's Prison, 1490; Oxford Orphanage, 408; Oxford Colored Orphanage, 259. The State contributed part, but not all of the maintenance of the last mentioned two institutions. Other State institutions, not under the supervision of the Board, were: North Carolina Orthopaedic Hospital, Gastonia (360 beds); North Carolina Soldiers' Home, Raleigh, 100; Confederate Women's Home, Fayetteville, 40; School for the Deaf, Morganton, 360; School for Blind and Deaf (colored) Raleigh, 179; School for the Blind (white), Raleigh, 150.

**POLITICAL AND OTHER EVENTS.** At the election on November 2, Senator Lee S. Overman, Democrat, was reelected to the U. S. Senate

for the six-year term. The ten Democratic members of the U. S. House of Representatives from the State were likewise reflected. A contest for the Senatorship occurred at the Democratic State primaries on June 5, Senator Overman defeating Robert R. Reynolds. A Chief Justice of the Supreme Court, Walter P. Stacy, and three Associate Justices, William J. Adams, Heriot Clarkson and Willis J. Brogden, were elected.

A North Carolina Fundamentalist committee was active in 1926 in preparing proposed legislation after the example of Tennessee to prohibit the teaching of the biological evolution of man, in the tax-supported schools of the State. Researches were conducted in the State with a view to the possibility of producing potash for fertilizer from the State's feldspar deposits. These deposits include large quantities of orthoclase and microcline feldspar, according to a statement of Dr. Jasper L. Stuckey, State geologist, who classed these varieties as of proper composition for the needs of potash extraction.

As in other cotton growing States, measures were taken late in the year to pool and store the State's portion of the excess cotton crop. The Carolina Cotton Finance Corporation, formed in November, undertook to receive planters' cotton and to lend upon it three-fourths of its value, for from 18 to 36 months; to allow interest and storage to accrue during the arrangement; and to finance these operations with the aid of bankers in the State.

A referendum approved by popular vote in the November election provided for a bond issue of \$2,000,000 to be used as advances to veterans with which to buy homes.

OFFICERS. Governor, Angus Wilton McLean; Lieutenant-Governor, J. Elmer Long; Secretary of State, W. N. Everett; State Treasurer, B. R. Lacy; Auditor, Baxter Durham; Attorney-General, Dennis G. Brummitt; Superintendent of Public Instruction, A. T. Allen.

JUDICIARY. Supreme Court: Chief Justice, Walter Clark; Associate Justices, Heriot Clarkson, William A. Hoke, W. P. Stacy, W. J. Adams.

**NORTH CAROLINA, UNIVERSITY OF.** A State institution for higher education at Chapel Hill, N. C.; founded in 1795. The enrollment in the autumn of 1926 was 2331 regular students, with 2823 in extension courses. There were 1536 registered for the summer session. The faculty had 189 members. The productive funds of the institution amounted to \$1,455,569.26, and the annual income to \$1,096,803.35. The library contained 160,000 volumes. A gift of \$275,000 was made by William R. Kenan, Jr., to erect the Kenan Memorial Stadium. The University extension division publishes an extensive list of bulletins on a number of subjects. President, Harry Woodburn Chase, Ph.D., LL.D.

**NORTH CENTRAL, formerly NORTHWESTERN, COLLEGE.** A coeducational institution of higher education at Naperville, Ill.; founded in 1861. Due to confusion with other institutions of the same name, it was decided in 1926 to change the name of the college to North Central College. In the autumn of 1926 there was an enrollment of 561 students, of whom 311 were men, and 250 women. There were 41 members on the faculty. The productive funds of the College amounted to \$613,500, and

the income for the year was \$127,700. In 1926 the Barbara Pfeiffer Memorial Hall, a chapel-music building, was completed at a cost of \$225,000. This building contains a four-manual memorial organ, which cost \$25,000. Beginning in 1926, four-year courses leading to degrees were established in the School of Music. There were 15,000 volumes in the library. President, Edward Everett Rall, Ph.D.

**NORTH DAKOTA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 646,872. On July 1, 1925, it was 641,192, according to a census taken by the State. No estimate was made in 1926. The capital is Bismarck.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Wheat,	1926	9,653,000	77,224,000	\$90,352,000
spring	1925	9,605,000	112,378,000	147,215,000
Flaxseed	1926	1,271,000	6,786,000	13,000,000
	1925	1,461,000	9,496,000	21,461,000
Oats	1926	2,024,000	34,408,000	11,355,000
	1925	2,354,000	63,558,000	17,161,000
Hay, tame	1926	1,331,000	1,365,000 *	15,015,000
	1925	1,066,000	1,821,000 "	13,111,000
Corn	1926	1,009,000	18,162,000	12,350,000
	1925	1,056,000	24,816,000	13,649,000
Barley	1926	1,472,000	21,050,000	9,683,000
	1925	1,732,000	38,970,000	16,757,000
Rye	1926	1,222,000	9,287,000	6,780,000
	1925	1,587,000	15,870,000	10,316,000
Potatoes	1926	94,000	7,520,000	9,024,000
	1925	104,000	7,488,000	11,232,000

\* tons.

**MINERAL PRODUCTION.** The State's mineral industries were of minor importance, except for coal mining. Coal production in 1925 (lignite) was 1,324,620 net tons; in 1924 it attained 1,200,527 short tons; the product was valued at \$2,445,000 in 1925, and in 1924 at \$2,473,000. The value of clay products was \$168,855 in 1924 and in 1923 \$181,933. Sand and gravel were also produced. The total of the State's mineral production was \$2,776,720 in 1924; in 1923, \$3,473,018.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$8,281,377. Their per capita rate was \$12.91, as against \$11.04 in 1924 and \$5.78 in 1918. Their total included \$1,570,578 for education, apportioned among the minor State divisions. Expenses amounting to \$5,024,497 for public service enterprises, \$1,273,942 for interest on debt and \$1,777,645 for permanent improvements, added to payments for maintenance and operation of the State departments, made the total of State payments \$16,357,461. For highways was expended the sum of \$1,604,383, of which \$117,140 was for maintenance and \$1,487,243 for construction.

Revenue receipts of the State were \$17,031,261, or \$26.55 per capita. They exceeded by \$2,451,445 the total payments except those for permanent improvements, and were \$673,800 greater than total payments with these items included. Property and special taxes formed 31 per cent of the revenue in 1925, as against 25.1 per cent in 1924 and 31.7 per cent in 1918. Their per capita rate was \$3.22 in 1925, \$6.85 in 1924 and \$2.54 in 1918. Earnings of State departments and compensation for officials' services



furnished 7.1 per cent of the 1925 revenue; business and non-business licenses, 9.6 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$4,067,370, or \$6.34 per capita, as against \$6.02 per capita in 1924 and 69 cents per capita in 1918. The assessed valuation of property subject to State tax was \$1,007,832,-658. The State tax levy was \$4,585,639, or \$7.15 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 5277. No new construction and no abandonment of line were reported in 1926.

**EDUCATION.** The State carried on in concert with the National Congress of Parents and Teachers a plan of work for promoting community interest in school affairs through the organization of a series of parent-teacher associations in the rural districts. It was stated by Minnie J. Nelson, State superintendent of public instruction, that one-half of the schools of the State had organized associations of this description in two years of the duration of the effort to promote such action. The results were visible in a wide spread of interest in rural schools, in longer school terms in many districts, the employment of better qualified teachers and a spread of school standardization. For the academic year 1924-25, the latest for which the statistics were available, the school population of the State was given as 214,566. There were enrolled in the public schools 173,116 pupils, of whom 148,973 were enrolled in common schools and 24,143 in high schools. Expenditure for education in the year aggregated \$17,167,063. Salaries of teachers averaged \$135.43 a month.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Governor A. G. Sorlie, running as Republican candidate to succeed himself, was reelected for the two-year term beginning in January, 1927. With him was elected the entire Republican State ticket. Gerald P. Nye, Republican, candidate for the U. S. Senate, was reelected for the six-year term. Republican members of the U. S. House of Representatives, three in number, were reelected.

The question of the validity of Nye's appointment to the Senate in the 69th Congress came before the Senate early in 1926, on the ground that Governor Sorlie had appointed him unconstitutionally. He was seated by a close vote, January 12. Nye was elected for the expiring term in a special election coinciding in date with the State primaries. It was considered that the primaries indicated a failure of the group formerly backing A. C. Townley to regain its political control.

**OFFICERS.** Governor, A. G. Sorlie; Lieutenant-Governor, Walter Maddock; Secretary of State, Robert Byrne; State Treasurer, C. A. Fisher; Auditor, John Steen; Attorney-General, George F. Shafer; Superintendent of Public Instruction, Bertha R. Palmer.

**JUDICIARY.** Supreme Court: Chief Justice, Luther E. Birdzell; Associate Justices: A. M. Christianson, A. G. Burr, John Burke. W. L. Nuesale.

**NORTH DAKOTA, UNIVERSITY OF.** A State institution of higher education at University Station, Grand Forks, N. D.; founded in 1883.

The enrollment for the autumn of 1926 was 1661, of whom 1011 were men and 650 were women. This number was distributed as follows: graduates, 30; liberal arts, 796; commerce, 115; education, 338; engineering, 196; law, 63; and medicine, 46. For the summer session of 1926, 130 men and 264 women were registered, a total of 394. The faculty numbered 116. The productive funds totaled \$1,700,000 and the income for the year \$706,634, exclusive of boarding department and trust funds, being derived as follows: from Federal land funds, \$74,134; student fees and rent, \$59,405; other local income, \$25,983; State appropriation for maintenance, \$477,482; State appropriation for buildings and improvements, \$47,222; and State appropriation for public service, \$22,408. The general university library contained 82,648 volumes. President, Thomas F. Kane, Ph.D., LL.D.

**NORTHERN TERRITORY.** A territory belonging to the Commonwealth of Australia, situated in the central and northern part of the island continent; transferred to the Commonwealth, Jan. 1, 1911. Area, 523,620 square miles; population, according to the census of 1921, exclusive of aborigines, 3867; estimated in 1924, 3258. The aborigines are estimated to number about 20,000. Principal town, Darwin, on the harbor of Port Darwin. The soil is capable of a varied production of crops of tropical and semi-tropical zones, but agriculture has not been developed. Down to June, 1924, the total value of all minerals produced was £3,378,705. The imports in 1924-25 were £20,792; exports, £39,169; Revenue, £59,371; expenditure, £303,133; debt, £3,879,151. Administrator, F. C. Urquhart.

**NORTHWESTERN COLLEGE.** See NORTH CENTRAL COLLEGE.

**NORTHWESTERN UNIVERSITY.** A co-educational institution of higher education at Evanston and Chicago, Ill.; founded in 1851. It is composed of the college of liberal arts, the graduate school, the school of engineering, and schools of commerce, journalism, music, education, and speech, in Evanston; and the schools of law, medicine, dentistry, commerce, and journalism in Chicago. There was an enrollment in 1894 for the 1926 fall term, of whom 4000 were registered in the school of commerce in Chicago. For the summer session of 1926, 1885 students were enrolled. There were 702 faculty members, an increase of 52 over 1925. The endowment as of June 30, 1926, was \$14,138,-677.64, and the income for the fiscal year 1925-26 was \$534,249.76. In the various libraries of the University there were approximately 250,000 bound volumes and 130,000 pamphlets. During the year, important gifts to the University included \$4,000,000 from Mrs. A. Montgomery Ward of Chicago, to be used for medical research. President, Walter Dill Scott, Ph.D., LL.D.

**NORTHWEST PROVINCES.** The Prairie Provinces of Canada. See CANADA.

**NORTHWEST TERRITORIES.** The term applied to the large tract of land to the east of the Yukon Territory, stretching northward to the Arctic from the Prairie Provinces and westward to the north of Hudson Bay and Hudson Strait; comprising the territories formerly known as Rupert's Land and the Northwestern Territory, excepting those portions which form the provinces of Manitoba, Saskatchewan, Alberta, and the Yukon Territory. Area, 1,322,954 square miles; population, according to the cen-



sus of 1921, 7988. They are under the administration of the Northwest Mounted Police, directed by a commissioner at Ottawa, aided by a deputy commissioner, and a council of five. The commissioner in 1926 was William Wallace Cary.

**NORWAY.** A constitutional monarchy of northwestern Europe, occupying the western and northern half of the Scandinavian peninsula and separated from Sweden by the Kjolen Mountains; the extreme length is 1110 miles, and the extreme width 250 miles; formerly united with Sweden, but separated, June 7, 1905. Capital, Oslo.

**AREA AND POPULATION.** The area is 124,964 square miles and the population according to the census of 1920, 2,649,775, of whom 1,864,371 lived in rural districts. The capital, Oslo, had a population of 258,483 on Dec. 1, 1920. Other large cities with their populations in 1920: Bergen, 91,443; Trondhjem, 55,030; and Stavanger, 43,778. Before Jan. 1, 1925, the capital, Oslo, was called Christiania. The movement of population in 1924 was: Births, 59,654; deaths, 30,574; marriages, 16,573; emigration, 8492, of whom 5065 went to the United States.

**EDUCATION.** Primary instruction is compulsory, the school age being from 6½ to 14 in towns and seven to 14 in the rural districts. According to the latest available statistics there were in the country districts 5953 public elementary schools with 284,875 pupils, and in the towns, 3426 classes with 96,875 pupils. There were 113 secondary and 13 normal schools. The only university is at Oslo.

**PRODUCTION, ETC.** Almost three-fourths of the land of Norway is unsuitable for cultivation. Of the remainder over four-fifths is forest. According to the *Statesman's Year Book* for 1926, the acreage and produce of the principal crops for 1924 were as follows:

<i>Crops</i>	<i>Acreage 1924</i>	<i>Produce (quarters) 1924</i>
Wheat .....	21,365	59,929
Barley .....	136,237	540,143
Oats .....	280,028	1,105,969
Rye .....	25,383	77,205
Mixed corn .....	18,608	89,986
Potatoes .....	116,770	23,740,797*
Hay .....	.....	2,559,295 <sup>b</sup>

\* bushels, <sup>b</sup> tons.

On June 30, 1925, the country possessed 183,887 horses, 1,150,687 cattle, 1,528,819 sheep, 275,783 goats, and 252,959 swine. The forests and fisheries are the two chief single sources of wealth. The timber exports were valued at 77,155,721 kroner in 1924, and the wood pulp and paper at 262,733,323 kroner. The fisheries were valued at approximately 77,507,000 kroner. The pyrite is the most important mineral product for both its sulphur and copper content. The total value of mineral products in 1924 was 32,369,000 kroner. There were 9872 manufacturing establishments, which employed 141,110 workers.

**COMMERCE.** In 1925 the chief imports were: Grain, 177,400,000 kroner; textiles, 137,600,000; ships, 104,500,000; and the chief exports: fish, 145,100,000 kroner; pulp, 161,500,000; paper, 145,600,000; and timber, 73,700,000. The accompanying table shows the value of imports and exports, divided into classes:

<i>Classes of goods</i>	<i>1924</i>	
	<i>Imports of foreign goods Kroner</i>	<i>Exports Norwegian goods Kroner</i>
Animals, living .....	7,201,700	1,734,837
Animal produce (malty food) .....	71,805,680	286,709,565
Breadstuffs .....	193,138,600	1,283,418
Groceries .....	149,590,000	980,746
Fruits, plants, etc. ....	59,375,700	1,101,121
Spirits, etc. ....	17,150,500	440,281
Spinning materials, yarn, rope, etc. ....	73,480,820	7,218,073
Textile manufactures, etc.	139,707,790	2,937,737
Hair, skins, etc. ....	42,789,100	29,879,210
Tallow, oils, tar, etc. ....	155,425,200	88,123,628
Timber & wooden goods	27,347,690	81,563,076
Dye stuffs .....	10,567,600	2,276,855
Feeding stuffs; different vegetable produce ....	58,574,300	9,104,949
Wood-pulp, paper, and paper manufactures ..	16,542,100	262,733,323
Minerals, unwrought ..	168,180,700	40,357,863
Minerals, manufactured ..	48,022,520	89,949,607
Metals, unwrought or partly wrought .....	64,451,500	99,639,705
Metals, manufactured ..	77,161,580	8,392,810
Vessels, carriages, machinery, etc. ....	156,694,850	32,118,103
Total .....	1,536,687,880	1,041,524,857
Reexports .....	.....	24,128,878
Grand total .....	.....	1,065,651,735

**FINANCE.** The Norwegian budget for 1925-26 was the first to be drafted in accordance with the reform bill evolved by a special committee in 1924. The measure concentrates financial operations and does away with the granting of special or supplementary appropriations outside of the budget. Likewise, all government enterprises are included in the budget statement, with their net revenues either as deficit or surplus. Moreover, the ordinary and extraordinary budgets have been consolidated and the single budget divided into two parts, one showing operating (administrative) revenue and expenditure and the other showing capital income and expenditure. As originally drafted, the budget for 1925-26 balanced at 427,600,000 kroner, but as ultimately voted by parliament, this total was increased to 440,500,000 kroner. At the same time the item of service on the so-called "crisis loan" of 1921 was restored to the budget after its deletion from the original draft of the 1924-25 budget, along with the provisions for meeting the anticipated deficit for 1924-25. To cover in part the estimated deficit for 1925-26, a 5 per cent surtax on income was authorized by parliament on July 14, 1925, and the stamp tax on tobacco products was raised considerably. The estimated State borrowings also were raised to 20,000,000 kroner from the proposed 15,000,000 kroner.

The proposed budget for 1926-27, as presented to parliament early in January, 1926, presented a reduced balance of 417,500,000 kroner, retained the crisis loan service (though nearly halved), dispensed with the 5 per cent surtax and depended on the extraordinary property tax to meet the reduced allotments to the national debt service, and increased the State borrowings more than half above the amount for 1925-26. Taxes and customs form about 82 per cent of the ordinary revenues; customs making up approximately two-fifths of this total, whereas before the war they supplied the largest percentage. During the war, taxes on income and property became more important, but recent years

witness progress again in indirect taxation. During the recent years State borrowings have been an annual source of revenue for covering deficits. On Dec. 31, 1925, the total debt of Norway was 1,730,625,792 kroner.

**ARMY AND NAVY.** Military service is universal and compulsory from the age of 18 to 55. The strength of the regular force in 1925 was 5000 of all ranks; the number trained in that year was 13,000; and the number available on mobilization, 300,000. The military budget for 1925-26 was 34,495,000 kroner. The main vessels of the fleet numbered only four, and were of old model. In addition there were a number of destroyers, torpedo boats, mine-layers, and submarines, with about 36 seaplanes and 20 other planes. The entire navy is designed for coast defense duty. See **MILITARY PROGRESS**; **NAVAL PROGRESS**.

**GOVERNMENT.** Executive power is vested in the King, who acts through a cabinet or council of state, and legislative power in the parliament or Storting of 150 members, elected by universal suffrage, without distinction of sex. King in 1926, Haakon VII (born Aug. 3, 1872; elected King, Nov. 18, 1905). The members of the cabinet appointed Mar. 4, 1926, were: Premier and Minister of Foreign Affairs, M. Lykke; Finance, M. Konow; Justice, M. Christensen; Social Affairs, M. Morell; Agriculture, M. Baerøe; Commerce, Navigation, Industry and Fishery, M. Robertson; Defense, M. Wefring; Worship and Instruction, M. Magelssen; Labor, M. Venger.

**HISTORY.** The outstanding event in Norway during the year and one which was followed by more than usual interest in the United States was the national referendum on the liquor question.

A new cabinet was organized on March 4 under the leadership of M. Lykke, who announced shortly after assuming office that he would submit to parliament the question of a plebiscite to decide whether the prohibition of liquors should be continued further. Such a plebiscite would be merely advisory under Norwegian laws, that is, the final say rested with parliament, although it would be indubitably guided by the result of the plebiscite. Norway went "dry" as far as spirits were concerned in 1919 following a referendum on the subject. The parliament at the request of the premier passed a measure calling for a vote on the liquor question on October 18. The passage of this measure was followed by the familiar campaign methods of the "wets" versus the "drys." The anti-prohibition campaign was waged largely by the various churches and the Anti-Saloon League, which received support from America in the form of financial assistance and speakers.

The result of the referendum on October 18, was decidedly in favor of the anti-prohibitionists. The press reported that the vote against the continuance of prohibition was 525,423 and the vote in favor of continuance, 415,637. The anti-prohibition strength was mainly in the cities while the prohibitionists polled their greatest strength in the rural districts. Premier Lykke announced after the balloting that as soon as the Storting assembled in January, 1927, his government would introduce a measure to incorporate the results of the referendum into law. Even the most ardent anti-prohibitionists admitted that this was the only logical and sensible thing to do.

**NORWEGIAN LITERATURE.** See **SCANDINAVIAN LITERATURE**.

**NOTRE DAME, UNIVERSITY OF.** A Roman Catholic institution of higher education at Notre Dame, Ind.; founded in 1842. The enrollment for the autumn of 1926 was 2632, and for the summer school of the same year 905. There were 151 members on the faculty, of whom 16 were additions during the year. President, Rev. Matthew J. Walsh, C.S.C., Ph.D.

**NOVA SCOTIA, nō'vā skō'shā.** One of the Maritime Provinces of Canada. Area, 21,428 square miles; population, according to the census of 1921, 523,837. Capital, Halifax, with a population in 1921 of 53,372. Other large towns: Sydney, 22,545; Glace Bay, 17,007; Amherst, 9998; Dartmouth, 7899; New Glasgow, 8974; Sydney Mines, 8327; Truro, 7562; Yarmouth, 7093. In 1923-24 the movement of population was: Births, 11,680; deaths, 6868; marriages, 3216. Education is free, compulsory, and undenominational. There are four universities and 3053 schools, with 3237 teachers and 111,594 pupils. In the technical schools there were 4018 pupils. Nova Scotia is largely an agricultural and fruit-growing country. The chief product is apples, the output of which, in 1924, was about 1,600,000 barrels. The output of the chief minerals in 1924 was: Coal, 4,973,184 long tons; crude gypsum, 435,393 short tons; coke, 332,538 short tons; and small quantities of steel ingots, pig iron, limestone, and dolomite. Nearly 24,000 men are employed in the fisheries, which, next to those of British Columbia, are the most extensive in Canada. The total market value of fish caught in 1924 was \$9,600,000. The imports for consumption in 1924 were valued at \$20,063,506 and the exports at \$46,141,634. There are 1451 miles of railway.

Executive power is vested in a lieutenant-governor appointed by the Dominion government of Canada for five years, who acts through a responsible ministry or council; and legislative power in a house of assembly of 43 members. On Feb. 10, 1926, it was officially announced that the Legislative Council consisting of 21 members appointed for life by the crown would be abolished. The province is represented in the Dominion Senate by 10 members and in the House of Commons by 16. Lieutenant-governor, J. R. Douglas; Premier, Provincial Secretary, and Treasurer, E. N. Rhodes; Public Works and Mines, G. S. Harrington; Attorney-General, J. C. Douglas; Highways, P. C. Black; Natural Resources and Provincial Development, J. A. Walker.

**NOVELS.** See **LITERATURE, ENGLISH AND AMERICAN**; **FRENCH LITERATURE**; **GERMAN LITERATURE**; **SCANDINAVIAN LITERATURE**; **SPANISH LITERATURE**; **ETC.**

**NOYES, WALTER CHADWICK.** American jurist, died in New York on June 12. Born at Old Lyme, Connecticut, in 1865, he was educated at Cornell University and was admitted to the bar in 1886. He practiced law for many years in New London with Judge Augustus Brandegee, and in 1895 he became judge of the Court of Common Pleas of New London County, which office he held continuously until 1907, when he was appointed U. S. circuit judge by President Roosevelt. In 1913 he resigned from the bench to practice law, being made general counsel of the Delaware and Hudson Company. At various times Judge Noyes acted as receiver for the

South American Securities Company, the Chicago, Rock Island and Pacific Railroad Company and the American Real Estate Company. In 1909 and 1910 he represented the United States as a delegate to the international conference on maritime law, held at Brussels. He was the author of *The Law of Intercorporate Relations* (1902) and *American Railroad Rates* (1905).

**NUTRITION.** See FOOD AND NUTRITION.

**NUTS.** See HORTICULTURE.

**NYASSALAND**, or NYASALAND, **PROTECTORATE.** A British protectorate, formerly known as British Central Africa; situated on the southern and western shores of Lake Nyassa, extending northward to the Zambesi River. Area, 37,890 square miles; population in 1924, 1462 Europeans, 669 Asiatics, and 1,210,344 natives. The chief towns are Blantyre and Zomba, the seat of the government. Education is in the hands of foreign missionary societies, under which there were in 1924 2447 schools, with 192 European teachers, 149,493 pupils enrolled and an average attendance of 93,089. Among the chief products are tobacco, coffee, cotton, tea, and livestock. The imports in 1924-25 were valued at £548,156; and exports at £583,555. The chief articles of export are tobacco, cotton, fibres, corn and tea; of import, manufactures of cotton, provisions, and raw materials. Great Britain supplies more than half of the imports. Revenue for 1924-25 was estimated at £293,055 and expenditures at £295,481. The administration is under a commander-in-chief, aided by an executive and legislative council, composed of nominated members. Governor and Commander-in-Chief in 1926, Sir C. C. Bowring.

**OAKLEY, ANNIE** (MRS. FRANK BUTLER). Noted American rifle shot, died November 3, at Greenville, Ohio. She was born in a log cabin in Ohio in 1860, and, her father dying when she was but four years old, she developed a prowess in shooting that later was to make her famous, by hunting rabbits and other game to assist her mother. At nine years, of age the game shot was so much more than was necessary for the family support that she sent the surplus to the neighboring town by stage coach and supported herself as a market hunter. Her proficiency with a rifle was such that she was asked to join the Buffalo Bill Wild West Show in the late seventies, where she displayed feats of marksmanship. It was while she was touring Europe with this show that Annie Oakley met many of the crowned heads of Europe.

**OATS.** The world's production of oats in 1926, not including the Soviet Republics and the countries of the southern hemisphere, according to estimates published by the International Institute of Agriculture, Rome, was 3,456,429,000 bushels, being nearly 217,000,000 bushels less than in 1925. The acreage for the two years was nearly the same. The 1926 production reported for the leading countries was as follows: Germany 452,605,100 bushels, France 397,895,000 bushels, Canada 387,575,600 bushels, Poland 227,371,500 bushels, England and Wales 104,790,000 bushels, Czechoslovakia 90,129,700 bushels, Roumania 79,850,400 bushels and Sweden 74,261,100 bushels. The Soviet Republics in 1925 reported a yield of 647,205,500 bushels. Argentina in the crop year 1925-26 produced 80,432,900 bushels, Chile 5,185,200 bushels and Uruguay 2,439,800 bushels. The crop of the United States in 1926, as estimated by the Department of Agriculture,

was 1,253,739,000 bushels or about one third of the world's production. This crop was grown on 44,394,000 acres or at the rate of 28.2 bushels per acre. In 1925 the crop was 1,487,550,000 bushels, the area 44,872,000 acres and the average yield per acre 33.2 bushels. The average farm price Dec. 1, 1926 was 39.8 cents as compared with 38 cents on the corresponding date the preceding year, and the total value of the crops on this basis was \$499,531,000 and \$565,506,000 respectively.

The yields of the leading States were reported as follows: Iowa 195,962,000 bushels, Minnesota 129,162,000 bushels, Illinois 123,516,000 bushels, Wisconsin 96,638,000 bushels and Texas 83,666,000 bushels. In the southeastern group of States Georgia and South Carolina each produced over 10,000,000 bushels. The average farm price Dec. 1, 1926 in the different States ranged from 33 cents in North Dakota to 75 cents per bushel in Arizona. During the year ended June 30, 1926 the United States exported 30,975,000 bushels of oats and 156,805,000 pounds of oatmeal and imported the equivalent of 185,000 bushels of oats and oat products. A study made and reported by the United States Department of Agriculture showed that the cost of producing oats in 1925 was \$19.01 per acre and 51 cents per bushel. In the east north central and the west north central States the cost per bushel was 45 cents and 46 cents respectively, while in the south Atlantic and south central States it was 76 cents and 77 cents respectively. In similar studies made in 1922, 1923 and 1924 the cost of production ranged from 50 cents to 53 cents per bushel.

**OBERLIN COLLEGE.** A non-sectarian co-educational college at Oberlin, O.; founded in 1833. The registration for the fall term of 1926 was 1720, and that of the 1926 summer session 200. In 1925-26 the faculty had 209 members. The productive funds of the institution amounted to \$13,952,842, and the income for the year to \$1,065,898. The library contained 274,244 bound volumes, and 191,890 unbound volumes. President, Henry Churchill King, DD., LL.D.

**OBITUARY RECORD.** See NECROLOGY.

**OCEANIA**, ʻŌshē-ān'ia, **FRENCH ESTABLISHMENTS IN.** A French colonial possession, consisting of groups of small islands, scattered throughout a wide area of the eastern Pacific. The total area of the establishments is estimated at 1520 square miles; population in January, 1924, 31,703, of whom 25,569 were natives. The principal island is Tahiti, which contains the chief town, Papeete, with a population of 4601, of whom 2126 are Frenchmen. The group of islands of which Tahiti forms a part is known as the Society Islands. The other groups are the Marquesas Islands, Tuamotu Island, Leeward Islands, the Gambier, Tubuai, and Rapa groups, and a number of outlying islands. Various tropical fruits are grown and exported. Pearls and mother-of-pearl are important products. Imports in 1924, 42,107,252 francs; exports, 57,039,442 francs. The chief imports are tissues, wheat, flour, and metal work, and the chief exports, copra, mother-of-pearl, vanilla, coconuts, and phosphates. The local budget for 1926 was expected to balance at 11,590,633 francs. The most important islands are connected by a New Zealand steamship company with San Francisco, New Zealand, and Australia. The administration is in the hands of a governor assisted by an administrative council.

**ODELL, BENJAMIN B., JR.** American politician, former Governor of New York, died May 9. He was born at Newburgh, N. Y., on Jan. 14, 1854 and after studying at Bethany College, West Virginia, in 1873, went to Columbia University, remaining there from 1873 to 1875. He engaged in business in Newburgh, where he soon became known as a Republican politician. He was a member of the Republican State Committee from 1884 to 1896, and from 1898 to 1900, was Chairman of the Republican State Executive Committee. He was a member of the 54th and 55th Congresses, 1895-99, representing the 17th New York District, but at the end of this period of service he declined renomination. He was Governor of New York for two terms, from 1901 to 1905. In 1903 he received the degree of LL.D., from Columbia University. He was president and director of the Central Hudson Steamboat Company and other bodies and had many responsible business connections after his withdrawal from active political life. Governor Odell was a shrewd and able politician and the party organization showed the results of his control. His terms as governor were marked by good administration of the State's interests.

**ODLIN, ARTHUR FULLER.** American jurist, former Federal Judge, died June 7, at Jacksonville, Florida. He was born in Concord, N. H. on Apr. 25, 1860, and from 1877 to 1879 he was a student at Dartmouth College. In 1885 he graduated *cum laude* from the Boston University School of Law, and in the same year was admitted to the Bar. He practiced in Massachusetts, Ohio and Florida. From 1889 to 1901 he was Attorney General in Porto Rico, and from the latter date to 1904 was Judge of the Court of First Instance in Manila, P. I. In 1921 he was appointed by President Harding Judge of the United States District Court of Porto Rico. With Judge William A. Kincaid, Judge Odlin opened the first *niisi prius* Court in the Philippine Islands under the United States Government.

**OHIO. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 5,759,394. The estimated population on July 1, 1926, was 6,600,000. The capital is Columbus.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	3,591,000	145,436,000	\$87,262,000
	1925	3,741,000	179,568,000	102,354,000
Hay, tame	1926	2,936,000	4,007,000 *	56,098,000
	1925	3,030,000	3,304,000 *	50,221,000
Wheat, winter	1926	1,789,000	40,252,000	51,120,000
	1925	1,612,000	24,180,000	38,204,000
Wheat, spring	1926	6,000	132,000	166,000
	1925	4,000	124,000	191,000
Oats	1926	1,980,000	75,240,000	29,544,000
	1925	2,000,000	83,000,000	32,870,000
Potatoes	1926	107,000	10,058,000	17,099,000
	1925	113,000	11,978,000	23,956,000
Tobacco	1926	44,200	38,189,000 *	4,544,000
	1925	52,100	50,745,000 *	7,612,000
Barley	1926	116,000	3,712,000	2,301,000
	1925	110,000	3,410,000	2,387,000
Sugar beets	1926	84,000	837,000 *	
	1925	48,000	427,000 *	2,945,000

\* tons, \* pounds.

**MINERAL PRODUCTION.** The production of pig iron, forming one of the State's chief mineral activities, rose in Ohio to 8,875,615 long tons in

1925, from a total of 7,434,487 in 1924; in value, to \$173,418,068 in 1925, as against \$159,701,131 in 1924. Ohio ranked second to Pennsylvania in pig iron production. Coal production declined somewhat, to 28,034,112 net tons in 1925 from a total of 30,473,007 tons in 1924; and in value, to \$54,057,000 in 1925 from \$62,011,000 in 1924. Coke was produced to the quantity of 5,723,074 short tons in 1924 and of 6,323,810 short tons in 1923; in value, \$31,008,209 in 1924 and in 1923 \$40,712,282. Clay products, in which the State was the leading producer, attained a total of \$97,831,641 in 1924 and in 1923 of \$99,078,987. Natural gas production was 47,396,000 M cubic feet in 1924 and in 1923 was 53,812,000 M cubic feet; in value, \$24,203,000 in 1924 and \$25,675,000 in 1923. Gasoline was produced from natural gas to a total of some 10,000,000 gallons in 1925 and of 9,443,000 gallons in 1924; in value, \$1,050,000 in 1925 (estimated) and \$1,148,000 in 1924. Production of petroleum was 7,168,000 barrels in 1925 as against 6,811,000 barrels in 1924; the product had a value of \$17,200,000 (estimated) in 1925 and in 1924 of \$17,165,000. Stone production, 10,455,060 short tons in 1924 and 11,493,340 short tons in 1923, had a total value of \$11,280,865 for 1924 and \$11,464,569 for 1923. Lime was produced to the quantity of 1,061,000 short tons (estimated) in 1925, as against 934,407 short tons in 1924; and to the value of \$10,664,000 in 1924 (estimated) and in 1924 of \$9,511,270. Other important products were sand and gravel, ferroalloys, gypsum and salt. The total value of the State's mineral production in 1924 was \$249,049,648; in 1923, \$287,868,728.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$32,380,375. Their rate per capita was \$5.16 as against \$4.85 in 1924 and \$3.50 in 1918. Their total included \$4,092,936, for education, apportioned among the minor State divisions. Expenses amounting to \$103,789 for public service enterprises, \$1,310,068 for interest on debt and \$13,689,674 for permanent improvements, added to payments for maintenance and operation of the departments, made the total of State payments \$47,483,908. For highways was expended the sum of \$14,685,381, of which \$6,056,945 was for maintenance and \$8,628,436 for construction.

Revenue receipts of the State were \$47,450,167, or \$7.57 per capita. They exceeded by \$13,655,935 the total payments except those for permanent improvements, and were \$33,739 less than the total with these included. Property and special taxes formed 23.7 per cent of the revenue in 1925, as against 33.7 per cent in 1924 and 33.9 per cent in 1918. Their per capita rate was \$1.79 in 1925, \$2.96 in 1924 and \$1.41 in 1918. Earnings of the departments and compensation for officials' services furnished 8 per cent of the 1925 revenue; business and non-business licenses, 43 per cent. License receipts were derived chiefly from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925 was \$24,186,752, or \$3.86 per capita, as against \$4.22 in 1924 and 96 cents in 1918. The assessed valuation of property subject to State tax was \$12,679,776,500. The State tax levy

was \$3,169,944, or 51 cents per capita. The levy was for the compensation fund for war veterans.

As presented in the report of the State Treasurer, general revenue for the fiscal year ending June 30, 1926, amounted to \$31,105,277, from which were made disbursements of \$30,606,005. Receipts allotted to highway expenditure and distinct from the foregoing were \$7,781,208; and highway disbursements were \$17,758,183. The World War Compensation tax levy brought in \$3,123,749, and for compensation was disbursed \$3,360,937. The gas tax excise yielded \$12,667,504, of which was disbursed \$5,275,889. The total of all receipts was \$55,229,515; of all disbursements, \$62,977,728.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 8812. Switching and terminal companies operated 414 miles of track. New construction in 1926 comprised 101 miles of second, eight miles of third and eight miles of fourth or other track, and attained a total of 118 miles of track. No abandonment of line was reported.

**EDUCATION.** An increase in the requirements with regard to the preparation of teachers was reported by Vernon M. Riegel, State director of education. These laid particular emphasis on entrance examinations and on subject matter background. Diagnostic testing and remedial instruction were also stressed, and attention was paid to the placement of teachers and to following up graduates in service. For the year ending June 30, 1926, the school population of the State was estimated at 1,480,537. The total public school enrollment was 1,255,323; in common schools were enrolled 979,073 and in high schools 214,777. For the previous year, 1924-1925, expenditures for education were as follows: current expenses, \$84,181,455; total for all purposes, \$120,183,310. Salaries of teachers averaged approximately \$1350 a year.

**CHARITIES AND CORRECTIONS.** Attention was called to the housing situation in Cincinnati during the year by the report of Housing Inspector Charles Sagmeister on conditions there in 1925. The report condemned as unsanitary many houses in the poorer section along the river front, which had been built at an earlier day and lacked modern sewage arrangements. At Cleveland, May 26 to June 2, was held the National conference of social workers.

The State Department of Public Welfare had under its direction in 1926 23 State institutions, and carried on the execution of the State law as to pardons and paroles, activities for the prevention of blindness and work for the employment and industrial training of penal institution inmates in production of State supplies. Among the chief institutions under its control were; Athens State Hospital, 1316 inmates; Cleveland State Hospital, 1988; Columbus State Hospital, 2117; Dayton State Hospital, 1261; Lima State Hospital, 972; Longview State Hospital, 1695; Massillon State Hospital, 2205; Toledo State Hospital, 2011; Ohio Hospital for Epileptics, 1768; Institution for the Feeble Minded (at Columbus), 2008; Institution for the Feeble Minded (at Orient), 1228; State School for the Blind, 203; State School for the Deaf, 471; Ohio Soldiers' and Sailors' Home, 541; Boys' Industrial School, 1200; Girls' Industrial School, 528; Ohio Penitentiary, 2707; Ohio State Reformatory, 1988; and London Prison Farm, 473.

**POLITICAL AND OTHER EVENTS.** At the general

election on November 2, Governor A. Vic Donahey, Democratic candidate to succeed himself, was reelected for the two year term beginning in January, 1927. He defeated the Republican candidate, Meyer Y. Cooper, by about 70,000 votes. The Lieutenant Governor, Secretary of State, Treasurer, Attorney General and Chief Justice of the Supreme Court were all reelected at the November election. Senator Frank B. Willis, Republican, was reelected to the U. S. Senate. He had the support of the State organization of the Anti-Saloon League. He led his Democratic opponent, former Senator Atlee Pomerene, by approximately 88,000 votes. Pomerene had defeated Supreme Court Justice Florence E. Allen in the primaries by a heavy plurality, and ran on an anti-prohibition platform. Socialist and Socialist-Labor tickets were placed on the ballot but obtained only small votes. Fifteen Republicans and seven Democrats were elected from the State to the U. S. House of Representatives. In a referendum on the question whether to abolish the State system of nomination of candidates for elective office by direct primary, there was cast a vote in the proportion of about two to one for the retention of the direct primary.

The murder of Don R. Mellett, a newspaper publisher of Canton, O., who had taken the course of demanding the overthrow of the lawless element in that locality, led to the arrest of Eugene McDermott with two co-defendants.

**OFFICERS.** Governor, A. V. Donahey; Lieutenant-Governor, Earl D. Bloom; Secretary of State, Clarence J. Brown; Treasurer, Bert B. Buckley; Auditor, Joseph T. Tracy; Attorney-General, Edward C. Turner.

**JUDICIARY.** Supreme Court, Chief Justice, Carrington T. Marshall; Associate Justices, Reynolds R. Kinkade, James E. Robinson, Thomas A. Jones, Edward S. Matthias, Florence E. Allen, and Robert H. Day.

**OHIO NORTHERN UNIVERSITY.** A co-educational institution for higher education at Ada, Ohio, founded in 1871, and under the direction of the Methodist Episcopal Church. It consists of a preparatory school, a college of liberal arts, a normal college, colleges of engineering, commerce, law, agriculture, music, and schools of expression, fine arts, and military training. In the autumn of 1926 there were 1174 students registered, and in the 1926 summer school, 661. The faculty had 54 members. The productive funds of the institution amounted to \$450,000, and the income for the year to \$250,161.50. There were 12,000 volumes in the library. A new gymnasium was under construction in 1926. President, Albert Edwin Smith, D.D., Ph.D.

**OHIO STATE UNIVERSITY.** A co-educational State institution of higher education at Columbus, O.; founded in 1870. The enrollment for the autumn of 1926 totaled 9377, distributed as follows: graduate school, 581; agriculture, 785; applied optics, 28; arts, philosophy, and science, 2126; arts-education, 117; commerce and journalism, 1743; dentistry, 231; education, 1429; engineering, 1537; law, 337; medicine, 316; pharmacy, 184; veterinary medicine, 54. There were 2789 students registered for the summer quarter of 1926. The faculty, in the autumn quarter, had 809 members, an increase of twenty over 1925. The endowment amounted to \$1,133,721, and the income for the year to

\$6,308,531.63. The total expenditures were \$6,250,962.82. The University also had current assets amounting to \$1,888,744.94, and the buildings and equipment were valued at \$14,110,433.89. The library contained 276,161 volumes. President, George W. Rightmire, M.A., LL.D.

**OHIO UNIVERSITY.** A State institution of higher education at Athens, Ohio; founded in 1804. The student enrollment for the 1926 fall term was 2003, of whom 1020 were in the College of Liberal Arts, 678 of these men and 342 women; 983, 256 men and 727 women, were in the College of Education. In the liberal arts the students were distributed as follows: 143 seniors, 179 juniors, 282 sophomores, and 371 freshmen, with 5 specials and 40 special music students. The distribution in education follows: 105 seniors, 129 juniors, 296 sophomores, and 446 freshmen, with 7 specials. There was a registration of 1190 in the 1926 summer session, 196 men and 994 women. The faculty numbered 149. The productive endowment of the University totaled \$71,802.77, and the income for the year 1925-26, including appropriations by the legislature for additions for the two years 1925-27, was \$1,209,936.82. The library contained 80,000 volumes. President, Elmer Burritt Bryan, L.H.D., LL.D.

**OHIO WESLEYAN UNIVERSITY.** A co-educational institution of higher education at Delaware, Ohio, founded in 1844, and under the control of the Methodist Episcopal Church. For the fall term of 1926 the total enrollment was 1902, distributed as follows: seniors, 283; juniors, 407; sophomores, 471; freshmen, 649, special students, 17; conservatory, 49; post-graduates, 26. The faculty numbered 143. The productive endowment of the University amounted to \$1,800,000, and the income for the year to \$523,828.37. The library contained more than 110,000 volumes. President, John Washington Hoffman, D.D., LL.D.

**OIL.** See PETROLEUM.

**OIL ENGINES.** See INTERNAL COMBUSTION ENGINES.

**OKI, COUNT ENKICHI.** Japanese politician, died February 15. He was born in 1871 and was educated at the Peers' School, being the second Count to enter. He became a member of the House of Peers, and, in 1919 was appointed Minister of Justice in the Cabinet of Premier Hara. In 1922, when Baron Kato was asked to take over the administration *in toto* of the Government with the Cabinet formed by his predecessor, Count Oki was made Minister of Railways.

**OKLAHOMA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,028,283. The estimated population on July 1, 1926, was 2,342,000. The capital is Oklahoma City.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	4,912,000	1,950,000 *	
	1925	5,289,000	1,691,000 *	
Corn	1926	2,353,000	61,178,000	\$34,260,000
	1925	2,558,000	19,185,000	17,266,000
Wheat, winter	1926	4,214,000	73,745,000	87,019,000
	1925	3,816,000	27,191,000	39,971,000
Hay, tame	1926	551,000	851,000 *	10,212,000
	1925	480,000	613,000 *	9,808,000
Oats	1926	1,968,000	38,804,000	14,172,000
	1925	1,140,000	26,230,000	13,372,000
Potatoes	1926	43,000	2,838,000	4,825,000
	1925	39,000	2,808,000	6,818,000

Crop	Year	Acreage	Prod. bu.	Value
Sweet potatoes	1926	24,000	2,520,000	2,520,000
	1925	20,000	1,880,000	2,538,000
Barley	1926	176,000	4,752,000	2,756,000
	1925	126,000	1,764,000	1,328,000
Grain sorghum	1926	1,158,000	24,318,000	10,943,000
	1925	1,053,000	14,216,000	10,662,000

\* bales, † tons.

**MINERAL PRODUCTION.** Third in rank among the States in respect to value of its annual mineral product, the State has of recent years obtained more than three fourths of this value from production of petroleum and natural gas. In 1925 176,760,000 barrels of petroleum were produced in the State and in 1924 173,538,000 barrels; valued for 1925 at \$347,000,000 (estimated) and for 1924 at \$272,450,000. In quantity the petroleum product of 1925 ranked second only to that of California, and in estimated value it ranked highest. Natural gas production, the highest in quantity for any State, totaled 214,452,000 M cubic feet in 1924, as against 203,082,000 M cubic feet in 1923; in value, \$31,045,700 in 1924 and in 1923 \$31,214,000. Gasoline was produced from natural gas to a quantity of 390,800,000 gallons in 1925, and of 301,062,000 in 1924; in value \$41,600,000 (estimated) in 1925 and in 1924 \$23,338,000 in 1924. Of zinc, 269,137 short tons produced in 1924 and 242,421 short tons in 1923 were worth, respectively, \$34,987,810 in 1924 and in 1923 \$32,969,256. Lead production was 71,538 short tons in 1924 and 66,904 short tons in 1923, with a value of \$11,417,280 in 1924 and in 1923 \$9,366,560. Coal mines of the State produced 2,239,000 short tons of coal in 1925 and in 1924 2,329,615 short tons. The product was valued in 1924 at \$8,590,000; in 1923 at \$10,874,000. Sand and gravel, stone, gypsum, clay products and asphalt, both native and derived from natural oil, were also produced. The State's total mineral production in 1924 was \$393,030,665; in 1923, \$398,810,630.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$16,278,863. Their per capita rate was \$7.33, as against \$5.78 in 1924 and \$3.20 in 1918. Their total included \$3,318,018, for education, apportioned among the minor State divisions. Expenses entailed by State aid to education increased materially in the year. Payments amounting to \$185,419 for interest on debt and \$10,809,304 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of State payments \$27,273,586. For highways was expended the sum of \$10,668,289, of which \$1,041,264 was for maintenance and \$9,627,065 for construction.

Revenue receipts of the State were \$28,428,070, or \$12.81 per capita. They exceeded by \$11,963,788 the total payments except those for permanent improvements, and furthermore, exceeded by \$1,154,484 the total with these included. Excess receipts were carried in increased cash balances. Property and special taxes formed 17.6 per cent of the revenue in 1925, as against 14.1 per cent in 1924 and 33.9 per cent in 1918. Their per capita rate was \$2.25 in 1925, \$1.23 in 1924 and \$1.93 in 1918. Earnings of the departments and compensation for officials' services furnished 7.4 per cent of the 1925 revenue;

business and non-business licenses, 33.9 per cent. License receipts were derived chiefly from taxes on incorporated companies, on sales of gasoline and on automobiles.

The net indebtedness of the State on June 30, 1925, was \$3,395,800, or \$1.53 per capita, as against a per capita of \$1.47 in 1924 and \$3.07 in 1918. The assessed valuation of property subject to State tax was \$1,665,566,451. The State tax levy was \$4,163,916, or \$1.88 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 6621. There was constructed in 1926 55 miles of new first track. The Oklahoma and Arkansas abandoned 20 miles of line between Kenwood and Day; the Chicago, Rock Island and Pacific, 23 miles between Homestead and Watonga.

**EDUCATION.** Progress in the standardization of rural schools extended the list of standardized schools of this sort to a total number of 1800, as recorded by the "model school" score card. Of approximately 17,000 teachers, some 13,000 engaged in summer school work for the purpose of improving their professional fitness. The practice of local certification of teachers by the counties and cities was in some cases discontinued. To a material extent the certification of teachers by the State board of education took its place. Educational authorities formed the plan to place before the State in the course of the school year 1926-1927 the topic of health education, with emphasis on its public importance. Education equalization, previously made a subject of State-wide publicity, had gained strong support in advance of the convening of the Legislative session of 1927.

The school population of the State was given as 721,522. There were enrolled in the public schools 654,742 pupils, of whom 573,683 were enrolled in the common schools and 80,879 in the high schools. Expenditure for education in 1926 totaled \$30,187,234. Salaries of teachers averaged \$1001.

**CHARITIES AND CORRECTIONS.** The chief State institutions with population at the end of 1925 were: State Penitentiary, McAlester; State Reformatory, Granite, 602 inmates; State Industrial School for Girls, Tecumseh, population, 166; Boys' State Training School, Pauls Valley, 88; State Industrial School for Colored Girls, Taft, 31; State Training School for Negro Boys, Boley; School for the Deaf, Sulphur, 349; Oklahoma School for the Blind, Muskogee; State Institute for the Feeble Minded, Enid, 450; State Tuberculosis Sanitaria, at Clinton and Tahina, Soldiers' Tubercular Sanatorium, Sulphur, 44 patients; Union Soldiers' Home, Oklahoma City, population, 96; Oklahoma Confederate Home, Ardmore, 112; State hospitals for the insane, at Norman and at Vinita, combined population 2674; Western Hospital for the Insane, Supply, 832; Walker State Home (for children), 256; West Oklahoma School for White Children, Helena, 82; Deaf, Blind and Orphans' Institute (colored) Taft, 215.

**POLITICAL AND OTHER EVENTS.** At the general election on November 2, Henry S. Johnson, Democratic candidate, was elected Governor for the four year term beginning in January, 1927. He failed to receive the united support of elements in his own party friendly to former Governor Jack Walton, but nevertheless defeated his Republican opponent, Omar K. Benedict. Elmer Thomas, Democrat, was elected to the U. S.

Senate for the six year term. He defeated Senator J. W. Harrel, Republican, who was a candidate for reelection. There were elected to the U. S. House of Representatives seven Democratic candidates and one Republican, the Democrats gaining one seat held by a Republican in the 69th Congress.

The Wage act of the State was declared unconstitutional by the U. S. Supreme Court January 4. At Wilburton on January 13, a coal mine explosion caused the death of nearly 100 men. The boundary dispute between the State and Texas involving some 25,000 acres of land along the border northward from the Red River was considered by the U. S. Supreme Court, which on October 11 ordered a new survey. The affairs of Oklahoma County, containing the State capital, Oklahoma City, were thrown into confusion by litigation impugning the legality of certain taxes imposed in 1925, which rendered county balances impossible to draw upon. The county treasurer reported December 10 that banks were withholding \$1,091,780 of 1925 collections, and the county was tendering warrants in payment of current expenditure. An initiative petition attacking the tax levy was declared unconstitutional in an inferior court, and the action was appealed. The State tax protest law provided in any case for the holding of tax moneys under litigation until released by court order.

**OFFICERS.** Governor, M. E. Trapp; Secretary of State, R. A. Sneed; Treasurer, A. S. Shaw; Auditor, C. C. Childers; Attorney-General, George F. Short; Superintendent of Public Instruction, M. A. Nash.

**JUDICIARY.** Supreme Court: James I. Phelps, John B. Harrison, Fred P. Branson, John H. Pitchford, C. J. Elting, George M. Nicholson, Neil E. McNeill, F. E. Kennamer, Fletcher Riley, Albert C. Hunt.

**OKLAHOMA, UNIVERSITY OF.** A co-educational State institution of higher education at Norman, Okla.; founded in 1892. The enrollment for the autumn of 1926 totaled 4431, of whom 2835 were men and 1596 were women. These were distributed as follows: graduate school, 136; arts and sciences, 2556; business, 173; education, 71; engineering, 610; fine arts, 292; law, 250; medicine, 177; nursing, 65; pharmacy, 100. For the summer session 2115 students registered, 697 men and 1418 women. The faculty had 286 members. The productive funds of the University amounted to \$3,200,000, and the income for 1926-27 to \$1,317,650, from the following sources: state appropriations, for maintenance \$981,650, buildings and equipment \$186,000, land \$20,000; from student fees, 130,000. A new gymnasium was under construction. The library contained 68,000 volumes. President, William Bennett Bizzell, Ph.D., LL.D.

**OLD AGE PENSIONS.** The year 1926 saw the passage of an old age pension law by the State of Kentucky, which became the fourth State to provide this method for the care of the aged poor. The other States were Montana, Nevada, and Wisconsin. A pension law was passed by the legislature of the State of Washington, but was vetoed by Governor Hartley. New York created a legislative commission to investigate the condition of the aged poor and to recommend legislation. Public employees' retirement systems were improved and expanded by the legislatures of Hawaii, Massachusetts,



New York, New Jersey, and by the Federal Congress.

**PENSION COSTS AND STATISTICS.** As the principal weapon in the propaganda against old age pension legislation has been the argument of excessive costs, it is of interest to study the actual costs of the pension systems that are already in operation. According to the figures compiled by the Wisconsin State Board of Control, the average cost per person per day under the pension law of 1925 was 79 cents. The Wisconsin law is quite liberal and grants pensions up to \$1 a day. Since the law went into effect up to June 1, 1926, five counties acted to put the system into operation. In these counties there was a total of only 301 applicants, of whom 261 were granted pensions; and of these 261, 161 were men and 100 were women. The maximum pension was paid to 104 persons, the report showed. Two hundred and five of the pensioners had disabilities, such as blindness or eye trouble, deafness, nervous diseases, rheumatism, "sickness" and "old age." The pensioners have a total of 755 children, of whom 644 are married, with a total of 1851 children of their own. "The occupation of the pensioners' male children," said the report, "discloses the fact that most of them are laborers and farmers and factory hands probably not making much more than a living for their own family."

The Wisconsin pension cost of 79 cents a day or \$23.70 a month represents a monthly saving of from \$6 to \$11 for each pensioner as compared with poorhouse maintenance. In Montana, after three years operation of the old age pension law, there was paid in 1925 an average pension of \$172.16 a year or \$14.35 a month. The saving on poorhouse maintenance was more than one third.

The Wisconsin and Montana figures may be contrasted with the propaganda of the Pennsylvania State Chamber of Commerce against the adoption of a constitutional amendment permitting old age pension legislation in that State. It will be recalled that the Pennsylvania Old Age Pension Law of 1923 was declared unconstitutional, and that a movement was immediately started to amend the State constitution to permit such legislation. The amendment passed the legislature in 1925, and if it is again passed in 1927, it will be voted on by the people. The organ of the Chamber of Commerce, *Pennsylvania Progress*, in an effort to defeat the amendment in the legislature, wrote as follows: "While no definite figures are at hand to show just exactly what such a system would cost the taxpayers of the State of Pennsylvania, yet it is estimated that the total amount involved would be from \$40,000,000 to \$60,000,000 annually. These figures are based on the report of a commission appointed by Governor Brumbaugh in 1917 which calculated its finding on the census of 1910 and which developed that \$32,000,000 would be needed annually to defray this item of expense."

Mr. John F. O'Toole, a member of the State Old Age Pension Commission, immediately challenged the statement. He denied that any commission in Pennsylvania ever made the estimate suggested, and quoted instead the report of the Old Age Commission to the 1925 Legislature. This commission, he pointed out, had declared that, "based upon as accurate and scientific figures as are ascertainable, we find that even if every

aged person in the State, qualified under the law, would be given assistance, the cost would not amount to more than approximately \$5,000,000 a year, or about 57 cents for each citizen in the State. This is a big sum of money until it is recalled that for this sum we would be able to take care of three times the number of persons now taken care of in our almshouses, which expenditures, if everything be included, amount to at least \$8,000,000 a year."

**NEW LEGISLATION.** We give below an abstract of new laws relating to old age pensions and retirement systems for public employees. The abstract follows the regular annual summary in the *American Labor Legislation Review*.

**Hawaii.** A retirement system was established this year covering all public employees of the territory, except those who elect not to be included. All other retirement systems supported by public money are abolished. The retirement allowance is to consist of an annuity which is the actuarial equivalent of the employee's accumulated contributions plus a pension equivalent to one one-hundred and fortieth of his average annual salary for the past ten years. The age of permissible retirement is sixty years, and that of compulsory retirement is seventy years. For accident disability an employee is to receive in addition to his annuity a pension equal to two thirds of his average final salary.

**Kentucky.** An old age pension system was passed by the State legislature this year. The system, when accepted by the court or commissioners of any county, is to be administered by the county judge. The maximum pension is \$250 per year, and the applicant for a pension must be seventy years of age, a citizen of the United States for fifteen years and a resident of the county for ten years. He must not possess an income in excess of \$400 per year nor property to the value of \$2500 or more. He must not have a child or other legally responsible person able to support him. The maximum penalty for attempts to obtain benefits by false statement is \$500 fine, imprisonment for one year, or both.

**Massachusetts.** The provisions of the retirement system for public employees were expanded during the year. It was also enacted that when a person becomes a public charge, the expense incurred by public authorities for his maintenance, unless otherwise paid, shall be deducted from any retirement pension for public employees to which he is entitled.

**New Jersey.** The retirement system for public employees was expanded.

**New York.** The public employees' retirement systems were regulated and expanded. The legislature also passed a joint resolution authorizing a committee of two senators and three assemblymen to investigate the condition of the aged poor with a view to devising a state policy and recommending legislation.

**Porto Rico.** The legislature amended the public employees' retirement act to protect employees transferred to temporary positions or on leave of absence.

**United States.** The Federal employees' retirement law was amended and reenacted. The principal changes are the following: to employees eligible to retire at sixty-five are added village letter carriers, sea post clerks and laborers; to those eligible to retire at sixty-two are added all employees engaged in hazardous oc-



cupations or whose terms of service have included fifteen years in the tropics; classification of employees into age groups is to be determined jointly by the Civil Service Commission and the heads of the departments concerned; to employees included under the act are added permanent citizen employees of the Panama Canal, all unclassified employees of the United States, permanently employed under labor regulations approved by the President; annuities are to be computed by multiplying the average annual salary (not to exceed \$1500) for the ten years preceding retirement by number of years of service (not to exceed thirty) and dividing the product by forty-five, instead of multiplying, as heretofore, such average salary by a certain per cent, varying from thirty to sixty; maximum pension is \$1000 instead of \$720, minimum unspecified instead of \$180.

**OLGA.** Dowager Queen of Greece, died at Rome, Italy, on June 19. She was a grand-duchess of Russia, born Aug. 22, 1851 and her full name was Olga Constantinovna. She married King George I (1845-1913), second son of King Christian IX of Denmark, at St. Petersburg, Russia, Oct. 27, 1867. With the banished royal family of Greece she had taken up residence in Italy, and the Greek Minister at Rome tendered the official condolences of the Greek Government to the other members of the royal family on Queen Olga's death. An offer made to the royal family, that the Hellenic Government be permitted to conduct the funeral of Her Majesty at public expense, was refused.

**OMAN.** An independent Moslem state in southeastern Arabia, extending for about 1000 miles along the southern coast of the Gulf of Oman; guaranteed in its integrity by Great Britain and France. Area, about 82,000 square miles; population estimated at 500,000; chiefly Arabs, but with a considerable negro element along the coast. The capital, Muscat, and the neighboring town of Matrah, have a combined population of about 20,000 made up almost entirely of negroes and Baluchis. Imports, which consist chiefly of rice, coffee, and cotton piece goods, and exports, which comprise dates, dried limes, pomegranates, and dried fish, are from and to India for the most part. The reigning Sultan in 1926 was Seyyid Taimur bin Faisal bin Turki, who succeeded his father Oct. 5, 1913.

**ONNES, ön'-nēs, HEIKE KAMERLINGH.** Dutch physicist, died February 21. He was born at Groningen on Sept. 21, 1853, and was educated at the university of his native town. From the beginning of his studies he showed remarkable analytic powers and he chose physics as the department of science in which he was most interested. He began experimenting at an early age and by 1883 attracted the attention of scientists abroad by his low-temperature experiments. He became a Foreign Member of the Royal Societies of London, Dublin and Edinburgh. One of his most important discoveries was a method of liquefying helium discovered in 1908, and he was able to ascertain its boiling point, density and critical temperature. He was appointed Professor of Physics at Leyden and carried out most of his experiments in the splendidly equipped laboratory there. For other discoveries associated with his name, notably the possibility of perpetual electric current through certain metals at certain temperatures, he was made an Honorary

Member of the Royal Institute of Great Britain, and of the Chemical Society. Some time before his death he was made Professor Emeritus of Physics and Director of the Physical Laboratory at Leyden. He obtained the Nobel Prize for Physics in 1913.

**ONTARIO.** The second largest province of the Dominion of Canada (after Quebec), situated between Quebec on the east and Manitoba on the west. Area, 407,262 square miles; population according to the census of 1921, 2,933,662. The capital is Toronto, with a population in 1921 of 521,893. Other large cities: Ottawa (capital of the Dominion), 107,843; Hamilton, 114,151; London, 60,950. In 1924 there were 7022 elementary schools and 396 secondary schools, attended by 722,050 pupils, and taught by 17,567 certificated teachers.

Agriculture is the chief occupation of the province. The land under cultivation was estimated at 14,000,000 acres. The acreage and yield of the more important crops in 1925 were: Wheat, 860,439 acres, 24,345,000 bushels; oats, 2,837,390 acres, 111,509,000 bushels; barley, 436,383 acres, 14,182,000 bushels; rye, 98,652 acres, 1,973,000 bushels; flax, 9789 acres, 116,000 bushels; mixed grain, 681,624 acres, 23,107,000 bushels; other grains, 660,000 acres, 16,888,000 bushels; potatoes, 163,790 acres, 11,072,000 cwt.; roots, 110,538 acres, 20,251,000 cwt.; hay and clover, 3,544,003 acres, 4,997,000 tons; alfalfa, 550,645 acres, 1,206,000 tons; fodder corn, 373,133 acres, 3,627,000 tons. The farm values for 1924 were: Land, \$885,348,000; buildings, \$484,539,000; improvements, \$164,022,000; livestock, \$222,394,000. The total value of the metallic mineral production in 1924 was \$51,634,888; of the non-metallic minerals, \$23,921,445. The revenue for 1923-24 was \$40,540,923 and the expenditure, \$48,866,568. There are about 11,000 miles of railway.

The executive power is vested in a lieutenant-governor appointed for five years by the governor-general of Canada and a responsible ministry; legislative power is in a single chamber of 111 members, elected for four years. Women have the franchise and the right to election to the chamber. Ontario is represented in the Dominion Senate by 24 members and in the House of Commons by 82. Lieutenant-governor in 1926, Col. Henry Cockshut; Prime Minister and President of the Council, G. Howard Ferguson; Attorney-general, W. F. Nickle; Treasurer, W. H. Price; Secretary and Registrar, L. Goldie; Education, G. Howard Ferguson; Agriculture, J. S. Martin; Public Works and Highways, G. S. Henry; Lands and Forests, James Lyons; Mines, Charles McCrea; Labor and Health, Dr. Forbes Godfrey; Ministers without Portfolio, R. J. Cooke and Leeming Carr.

**OPERA.** See MUSIC.

**OPPENHEIMER, KARL.** German physician, authority on children's diseases and pioneer for children's clinics in Germany, died July 28, at Munich. He was born in 1864, and devoted his whole life to researches into children's diseases, their prevention, and the welfare of child life. He introduced into Germany the organization of Children's Welfare Centres, which, from the success of his first institution of the kind, established in Munich, soon spread all over Germany. To his researches and patient devotion to his ideals, are due many of the prophylactic systems of child-rearing.

**OPTICS.** See **PHYSICS.**

**ORANGE FREE STATE.** A province of the Union of South Africa. Capital, Bloemfontein. See **SOUTH AFRICA, UNION OF.**

**ORANGES.** See **HORTICULTURE.**

**ORCHESTRAS.** See **MUSIC.**

**ORDNANCE.** See **MILITARY PROGRESS.**

**ORE DEPOSITS.** See **GEOLOGY.**

**ORE DRESSING.** See **METALLURGY.**

**OREGON.** **POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 783,389. The estimated population on July 1, 1926, was 877,000. The capital is Salem.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Wheat,	1926	880,000	17,600,000	\$21,120,000
winter	1925	850,000	7,850,000	9,996,000
Wheat,	1926	146,000	1,986,000	2,382,000
spring	1925	614,000	11,548,000	15,698,000
Barley	1926	82,000	2,378,000	1,546,000
	1925	96,000	3,168,000	2,313,000
Hay, tame	1926	912,000	1,764,000	19,404,000
	1925	925,000	1,903,000	22,075,000
Potatoes	1926	45,000	4,500,000	4,500,000
	1925	40,000	4,160,000	6,240,000
Corn	1926	75,000	2,475,000	2,475,000
	1925	71,000	2,059,000	2,203,000
Oats	1926	804,000	8,816,000	4,408,000
	1925	320,000	10,560,000	5,886,000
Hops	1926	13,000	14,950,000	3,738,000
	1925	13,000	15,600,000	3,588,000

\* tons, \* pounds.

**MINERAL PRODUCTION.** The metal and ore production of the State fell off in 1925, especially that of gold, the metallic product attaining the highest value in yearly production. There were mined in 1925 gold, silver, copper and lead to a value of \$430,753, and in 1924 of \$678,072. Quantities produced were: gold, 18,982 fine ounces in 1925, and 26,695 fine ounces in 1924; silver, 32,793 fine ounces in 1925 and 38,103 fine ounces in 1924; lead and copper, minor quantities. Stone was produced to the quantity of 1,592,530 short tons in 1924 and 1,103,330 short tons in 1923; and to the value of \$1,624,602 in 1924 and in 1923 of \$1,342,070. Sand and gravel yielded 2,238,056 short tons in 1924, and 1,702,439 in 1923; in value, \$1,615,114 in 1924 and in 1923 \$1,320,483. Clay products in 1924 were worth \$701,577; in 1923, \$612,785. The State's mineral products had a total value in 1924 of \$7,364,232; in 1923, \$6,054,487.

The value of gold, silver, copper, and lead produced in Oregon in 1926, as estimated by the Bureau of Mines, was \$334,300. It was estimated that 13,600 ounces of gold were produced, valued at \$281,000. The silver production was 29,400 ounces, valued at \$18,300.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925, were \$10,101,973. Their per capita rate was \$11.98, as against \$11.06 in 1924 and \$5.90 in 1917. Their total included \$414,593 for education, apportioned to minor State divisions. Payments amounting to \$9628 for public service enterprises, \$2,546,825 for interest on debt and \$6,052,326 for permanent improvements, added to payments for the maintenance and operation of departments, made the total of State payments \$18,710,752. For highways was

expended the sum of \$7,539,473, of which \$2,131,414 was for maintenance and \$5,408,059 for construction.

Revenue receipts of the State were \$20,402,930, or \$24.20 per capita. They exceeded by \$7,744,504 the total payments except those for permanent improvements, and furthermore exceeded by \$1,092,178 the total with these included. Investments were purchased with excess receipts. Property and special taxes formed 38 per cent of the revenue in 1925, as against 38.4 per cent in 1924 and 64.7 per cent in 1917. Their per capita rate was \$9.20 in 1925, \$9.33 in 1924 and \$3.79 in 1917. Earnings of the departments and compensation for officials' services furnished 4.7 per cent of the 1925 revenue; business and non-business licenses, 40.3 per cent. License receipts were derived chiefly from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on Sept. 30, 1925, was \$39,702,437, or \$47.08 per capita, as against \$49.94 per capita in 1924 and 66 cents per capita in 1917. The assessed valuation of property subject to State tax was \$1,058,880,737. The State tax levy was \$7,492,761, or \$8.89 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 3357. The Southern Pacific constructed 36 miles of line (single track) on the Natron cutoff. No abandonment of line was reported.

**EDUCATION.** A southern Oregon normal school was established to serve that portion of the State. Provision was made by a State referendum for the establishment of another normal school in eastern Oregon. When this is accomplished the State will have three normal schools, supplying ample teacher training facilities.

**CHARITIES AND CORRECTIONS.** The State Board of Control in its seventh biennial report, covering the period ending Sept. 30, 1926, gave the average daily populations in the institutions under its control as follows: Oregon State Hospital, 1861; Eastern Oregon State Hospital, 786; Oregon State Penitentiary, 499; State Institution for the Feeble Minded, 805; Oregon State Training School, 193; Oregon State Tuberculosis Hospital, 162; Oregon State School for the Blind, 46; Oregon State School for the Deaf, 119; Oregon State Industrial School for Girls, 72; Oregon State Soldiers' Home, 115; Oregon Employment Institution for the Blind, 54. There were in addition numerous State-aided institutions for orphans, dependent children and wayward girls. The Board of Control reported on its employment in 1925 of a \$1,500,000 reseeded loan fund entrusted to it by the legislature of that year, with which to aid farmers to replant crops ruined by an unseasonable frost. Only \$396,431 was lent to needy farmers, on first chattel mortgages, and of this all the principal amount save \$8502 had been repaid by Sept. 30, 1926.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, I. L. Patterson, Republican candidate, was elected Governor for the four year term beginning January, 1927. The election of November 2 left the list of the chief other State officers unchanged save that Charles H. Howard was chosen for Superintendent of Public Instruction. The campaign for election of a U. S. Senator for the six year term was carried on by three candidates. Sen-

ator R. N. Stanfield, incumbent for the expiring term, was defeated in the State Republican primary, May 21, by F. W. Steiwer. He refused to withdraw from the campaign, and sought election as an independent candidate. The Democrats nominated Bert E. Haney. The election vote gave Steiwer a lead of some 6500 votes over Haney, while Stanfield ran third, Steiwer being accordingly elected. Haney had resigned from the U. S. Shipping Board in February in order to make his Senatorial campaign.

A Seattle chemist, M. J. Reuz, reported that jade deposits had been uncovered in eastern Oregon, about 9 miles southwest of Durkee, Baker County. A column in Astor Park, Astoria, was dedicated to commemorate the discovery of the Columbia River by Captain Robert Gray, commanding the fur trading ship *Columbia*, out of Boston, in 1792, and to mark other events in the history of the lower Columbia River. The column, 125 feet high, bears on its shaft a spiral frieze representing historical incidents.

**OFFICERS.** Governor, Walter M. Pierce; Lieutenant-Governor, President of the Senate; Secretary of State and State Auditor, Sam A. Koser; Treasurer, Thomas B. Kay; Attorney-General, I. H. Van Winkle; Superintendent of Public Instruction, J. A. Churchill.

**JUDICIARY.** Supreme Court: Chief Justice, Thomas A. McBride; Associate Justices: Henry J. Bean, John L. Rand, George M. Brown, George H. Burnett, Harry H. Belt and O. P. Coshow.

**OREGON, UNIVERSITY OF.** A State institution of higher education at Eugene, Ore.; founded in 1872. The enrollment for the fall term of 1926 was 3033, divided as follows: freshmen, 882; sophomores, 752; juniors, 553; seniors, 400; graduate students, 98; law school, 64; medical school, 223; specials, 61. Of this total 1734 were men and 1299 women. In the summer sessions of 1926, 1226 were registered, 311 being men and 915 women; of these 1061 were undergraduates and 165 graduate students. The faculty in the fall term numbered 175, not including those in extension work. The total income for the year 1926, was \$1,276,775.44, derived from the following sources: Land Fund interest, \$6,200; mileage tax from State, \$883,123.48; Villard endowment, \$2200; student fees, including laboratory fees, \$214,116; Medical School appropriation, \$97,080.50; Medical School fees, \$38,788.71; extension fees, \$35,266.75. The main library contained 165,650 volumes and the Medical School library 7000. During the week of October 18, the semi-centennial celebration of the University was held. New department heads appointed during the year were Dr. C. V. Boyer, of the department of English, and Dr. A. R. Moore of the department of zoölogy. Arnold Bennett Hall, J.D., LL.D., was elected president and was inaugurated Oct. 18, 1926.

**OREGON STATE AGRICULTURAL COLLEGE.** An institution for higher education at Corvallis, Oregon; founded in 1868, when the State designated Corvallis College as the recipient of the Federal land-grant funds and began to appropriate State funds. It became wholly a State institution in 1885. The enrollment for the fall term of 1926 was 3420, of whom 2290 were men and 1130 women. The summer session registration was 1068. There were 299 members on the teaching faculty. The income for 1925-26 from the original land-grant fund and other Federal funds, from the State

of Oregon (millage tax), student fees, etc., as well as certain appropriations from Oregon counties for extension work totaled \$2,235,687, as follows: resident instruction, \$1,271,655; experiment station, \$205,081; extension service, \$285,127; student activities funds, \$148,868; miscellaneous, \$324,956. There were 67,954 volumes in the library. Dean Edwin DeVore Ressler of the School of Vocational Education, died on Oct. 17, 1926. A new Women's Building was completed in 1926 at a cost of \$350,000. A campaign for \$500,000 for a Memorial Union Building was completed and construction was planned for early in 1927. President, William Jasper Kerr. D.Sc. LL.D.

**ORELLANA, O'rā-lyā'nā.** JOSÉ MARIA. President of Guatemala, died at Amatitlan, September 27. He was born in Jicaro, July, 1872, and was educated at the Escuela Politecnica, a famous military institution, from which, at an early age, he entered the army, becoming second lieutenant in 1890, and lieutenant-colonel in 1898. He served as chief-of-staff to General Don Luis Molena, and later was military commander and political chief of the Departments of Sacatepequez and Alta Verapaz, and also chief-of-staff to the president of the Republic, military instructor of the eastern army division and Military Vocal of the Supreme Court, and commander-in-chief of the army. In addition to his military offices General Orellana served as technical engineering adviser on numerous agrarian commissions, Minister of Public Instruction, deputy in the National Congress, Counselor of State, and in December, 1921 he was elected president of the Republic. During his administration numerous roads were constructed and communication, particularly by aviation, was encouraged. He was able to effect financial reforms and other measures in the way of economic reorganization.

**ORGANIC CHEMISTRY.** See CHEMISTRY.  
**ORGANIC INDIVIDUALITY.** See ZOOLOGY.

**ORGANISTS.** See MUSIC.

**ORIENTAL FRUIT MOTH.** See ENTOMOLOGY. ECONOMIC.

**ORLÉANS, LOUIS PHILIPPE ROBERT, DUKE OF.** Pretender to the French throne, died Mar. 28, 1926, at Palermo, Italy. He was born on Feb. 6, 1869, at York House, Twickenham, near London, and, being the eldest son of the late Comte de Paris and nephew of the Duc de Chartres, he was the head of the Bourbon-Orléans House. He was educated in England at the Municipal College, and at the College Stanislas, in France. He was exiled from France in 1886, and, returning to England, he obtained a commission in the 60th Rifles and served in India during 1888 and 1889. In 1896 he married the Archduchess Marie Dorothea of Austria. He went to Paris but was again expelled.

**OSBORNE, RT. REV. EDWARD WILLIAM.** Former Protestant Episcopal Bishop of Springfield, Mass., died at his home in San Diego, Calif., July 5. He was born in 1845 in Calcutta, India, and was educated at Gloucester, England. He was ordained in the Church of England in 1869, and until 1875 he was a parish clergyman. He next became a mission priest of the Society of St. John the Evangelist, and was at Oxford, England, for two years (1875-77), after which he went to the United States, remaining in Boston until 1889. For seven years from 1890 he was superior of the mission at

Capetown, South Africa, later becoming provincial superior in Africa. He returned to Boston and in 1904 was made bishop coadjutor of Springfield, Mass. In 1906 he became bishop of the same diocese, and in 1916 he retired. He was the author of several books and articles on religious subjects, including *The Children's Saviour* (1879); *The Children's Faith* (1882); *The Saviour King* (1913); *Wonderful Things in the Catechism* (1913).

**OSBORNE, THOMAS MOTT.** American penologist, died at Auburn, N. Y., Oct. 20, 1926. He was born at Auburn, Sept. 23, 1859, and from his youth interested himself in social work, especially such questions as related to prison reform and the general improvement of the body politic. In 1885 he became a member of the Auburn Board of Education, serving until 1891 and again from 1893 to 1895. In 1898 he was a candidate for Lieutenant Governor of New York on the Independent ticket, and in 1903-05 he served as mayor of Auburn. He was a member of the Public Service Commission, Second District, New York, from July, 1907 to February, 1909, and in 1911, for a few months, was forest, fish, and game commissioner. His interest in politics led to his being selected as a delegate to the Democratic National Convention in 1896 and again to the National Gold Standard Convention of the same year. He was a member of the Democratic State Conventions of 1904, 1906, and 1912, and of the Democratic National Committee in 1924. In 1913 he was chairman of the New York Commission on Prison Reform, and, needing actual experience of prison life, he submitted himself voluntarily to imprisonment in Auburn Prison under the conditions of actual life of a convict. He was appointed warden of Sing Sing Prison and assumed charge Dec. 1, 1914, but his experience there, while it led to various reforms and changes, developed an unfortunate condition and he was indicted by the Westchester County Grand Jury for alleged perjury and neglect of duty. The case was dismissed and he was reinstated as warden, serving until October, 1916. He was appointed Lieutenant Commander in the U. S. Naval Reserve and assigned to the command of the Naval Prison at Portsmouth, N. H., from Aug. 1, 1917 to Mar. 17, 1920, when he was relieved at his own request. He founded and was chairman of the National Society on Penal Information, and wrote extensively on subjects connected with penology, some of his works being: *Within Prison Walls* (1914); *Society and Prisons* (1916), and *Prison Common Sense* (1924).

**OSMAN, ABU-BEKIR DIGNA** (commonly known as "OSMAN THE UGLY"). Chief Emir of the Mahdi tribes of the Sudan, and widely known rebel against British rule in Egypt, died at Wadi Halfa, Africa, on December 8, being more than 90 years old. The major part of his life was taken up in fighting against foreign armies, especially against British forces, and many times he matched his forces against those under the command of Lord Kitchener. He was originally a slave-trader, and it was with the intention of preserving this trade that he waged constant war against invading powers. Of his birth little is known; it is assumed by some that he was of mixed native-European breed, while others insisted on the purity of his descent. He joined the dervish Mahdi against the British in 1883, and made himself so indispensable to the move-

ment, that he shortly became the outlandish figure in the Sudan, Rudyard Kipling making him famous as "Fuzzy Wuzzy." In 1884 he and his men literally cut to pieces the force of Sartorius Pasha and Baker Pasha led against him. In the same year he cut through a British square by a wild charge and temporarily captured British guns. Sir Herbert Kitchener, then a colonel, captured Osman's camp, but the result soon won it back again. In 1886, Osman routed the Italians at Erythraea, and in 1898 he made his last effort, when with 35,000 men he again sallied forth against his old enemies the British. Some years after this he was made Chief Emir by Abdullah El Taishi, Khalifa of the Sudan. He was the only Emir who escaped death, capture at the time when the Khalifa was killed in battle, in November, 1899. He successfully hid himself until the following January, when he was captured by the British in the hills in the neighborhood of Suakim. Making sure of the troublesome tribe-leader the British authorities imprisoned him, and for twenty-two years he was held fast. He was for a time forgotten, but public attention was drawn to him again when a resolution was passed in the British House of Commons, directing his release. His return to active life, however, meant merely his living on his past glories as all his old associates were dead or banished: the Sudan he knew had gone.

**OWEN, THE RT. REV. JOHN.** Bishop of St. David's, Wales, Anglican prelate, died in November. He was born Aug. 24, 1854, and was educated at Bottsworth Grammar School, after which he became a scholar at Jesus College, Oxford. He became a deacon in 1879 and a priest in 1880. He was appointed Welsh Professor and Classical Lecturer at St. David's College, Lampeter, continuing in this post from 1879 to 1881. He was then made warden and headmaster of Llandovery College; relinquishing this post in 1889, he became dean of St. Asaph from 1889 to 1892. He was canon of St. Asaph (1892-1897) and then principal of St. David's College.

**PAHANG, pähäng'.** See FEDERATED MALAY STATES.

**PAINT, PROTECTIVE.** See CHEMISTRY, INDUSTRIAL.

**PAINTING.** See ART EXHIBITIONS.

**PAINTING AND SCULPTURE.** The most spectacular activities in the world of art during the year 1926 were covered chiefly by a series of remarkable sales of private collections, such as the vast Leverhulme collection. These sales surpassed anything else of the kind in recent years. No interruption took place in the procession of famous works of art across the Atlantic from Europe, especially from England.

Another interesting factor in the development of the art market during the past year was the increase of exhibitions and sale of the work of "modern masters," and the attendant increase in the prices obtained for their paintings.

Through the death of Mrs. Kirkwood, the estate of \$8,000,000 of the late William R. Nelson of Kansas City, Mo., became available for the building of an art museum and the furtherance of art in that city. With this endowment Kansas City will undoubtedly become in the next few years an important art centre in the West.

Interesting single events in the world of art were: The discovery in Saint Mark's, Venice, of a series of important XIVth century Flemish



*Underwood & Underwood*

GEORGE INNESS, JR.



*Carlo Leonetti*

JOSEPH PENNELL

TWO ARTISTS WHO DIED IN 1928



tapestries, long neglected and lost sight of in a storeroom, and comparable only with the famous series in the Cathedral of Angers; the unearthing of a beautiful life-size bronze figure of a youth of the Pheidias period, in the recent excavations at Pompeii; the discovery of a painting by Rubens, "Saint Teresa," also a Titian painting, "Venus With the Organ Player," in Germany—both said to be of highest quality; the purchase and exportation to California of a beautiful Romanesque cloister, part of a Cistercian monastery, the acquisition of an American collector—this was the last art object allowed to leave Spain before the enforcement of the new restrictions against removing art objects from that country. Of interest to the whole world was the announcement that Premier Mussolini had ordered the re-creation of Rome to be as "vast and powerful as in the days of Augustus"—an incredible attempt. In the Cathedral of Florence, the marvelous pulpit of Giovanni Pisano was restored and installed after centuries of neglect. The decision of the French government to include Whistler's portrait of his mother in the permanent collection of the Louvre—the first painting by an American to be so honored—was especially interesting to Americans. At Saint Cloud, near Paris, the model of the Lafayette Escadrille monument to American aviators of the War was unveiled. This monument is inclosed in a memorial park to be maintained in perpetuity.

Notable art publications of the year include: Dr. Albert C. Barnes, *The Art of Painting*: a critical and highly interesting dissertation on modern art; William Edwin Rudge, *Gilbert Stuart*: 4 vols., a magnificent résumé of the life of America's most important early painter; Ernst Pfuhl (translated by J. D. Beazley), *Masterpieces of Greek Drawing and Painting*; Van Merle, *Italian Painting*: a sumptuous edition; Adolfo Venturi (translated by Edward Hutton), *A Short History of Italian Painting*: an excellent and succinct account, suitable for the layman; C. H. C. Baker, *Dutch Painting of the Seventeenth Century*; John Quinn, *Illustrated Catalogue of His Collection*: 200 illustrations; George J. Cox, A.R.C.A., *Art for Amateurs and Students*; A. P. Laurie, *The Painter's Methods and Materials*; E. Wolff, *Anatomy for Artists*.

NECROLOGY. The necrology list of 1926 included, among American painters and sculptors, Harry Humphrey Moore, painter, long resident in Paris; Melzar Hunt Mosman, noted sculptor and designer, one of the world's famous bronze founders, at the age of 81; Thomas Nash, architect, well-known for his church designs; William H. Drake, animal painter; Burt Fenner, noted architect; Alfred David Leutz, sculptor; George H. Hollowell, painter; David P. B. Conkling, sculptor; Gerald Sinclair Hayward, miniature painter; George C. Everett, marine painter; Howard V. Shaw, architect; Charles M. Russell, painter of Western scenes, known as the "Cowboy Artist"; William Baxter Closson, painter; George Inness, Jr., landscape painter and son of George Inness; Thomas Moran, veteran landscape painter, at age of eighty, represented in many museums and private collections. Also Ben Foster, N.A., well-known landscape painter, charter member of the National Arts Club, represented in the most important museums of the country and in the Luxembourg, Paris, and winner of many prizes and medals; John Fer-

guson Weir, N.A., at the age of 85, painter and sculptor, brother of the late J. Alden Weir, first director of the Yale Art School, represented in the Metropolitan Museum and member of the group known as "The Hudson River School." Also, Mary Cassatt, famous American painter, long resident in Paris, and one of the nineteenth century group of Impressionists in France. Miss Cassatt was born in Philadelphia, studied under Degas, and was early identified with the Impressionist movement. Her chief interest lay in her portrayal of women and children, and she used, with equal facility, oil, water color, pastel and the etching needle. She was an inveterate worker, living almost the life of a recluse in her home in a suburb of Paris, and in the last years of her life she was threatened with total blindness. Miss Cassatt is acknowledged to be the most important woman painter America has produced, and her works are to be found in all the principal museums and collections of modern paintings in the United States, and in the Luxembourg Gallery, Paris. The year saw also the passing of Joseph Pennell, world-known etcher, lithographer, illustrator and writer. Mr. Pennell was long an interesting and picturesque figure in the world of art, the champion of Whistler, and the recipient of innumerable prizes and medals at various international expositions. His work is to be found in the Luxembourg, Paris, the Uffizi Gallery, Florence, the Modern Gallery, Venice, the British Museum, the Modern Gallery, Rome, the National Gallery, London, the Metropolitan Museum, New York, and elsewhere. He bequeathed his entire estate to the United States Government for the Department of Prints of the Library of Congress in Washington. His estate included his well-known collection of Whistleriana. Others who died in 1926 included Douglas Stewart, director of the Carnegie Museum; John D. E. Trask, former director of the Pennsylvania Academy and director of Fine Arts for the Sesqui-Centennial Exposition; George W. Stevens, director of the Toledo Museum of Art; Carl E. Akeley, sculptor, explorer and inventor; Ogden T. McClurg, archaeological explorer of the ancient Maya country; John Kimbly Mumford, Oriental rug expert; Stanislaus V. Henkels, authority on rare books and prints; Dr. Aaron Ember, noted Egyptologist; Charles L. Metz, archaeologist; Jules Mastbaum, financier and art patron, donor of the Rodin Museum to Philadelphia; Dr. William S. Bigelow, art connoisseur; Dr. A. D. F. Hamlin, professor of architecture, Columbia University, well-known writer and connoisseur; Robert Milton Mitchell, art connoisseur; Otto Stark, Indiana painter.

In France occurred the death of Claude Monet, dean of French painters, in his 86th year. Monet was the last and greatest leader of the nineteenth century group of revolutionaries, the so-called Impressionists, and he lived to see the ultimate triumph of his innovations, their worldwide influence, and their final complete consummation, together with the ushering in of a new movement, that of Post-Impressionism. But Monet never deviated from his chosen problem, and until the day of his death occupied himself with the perfect rendition of Nature, giving to light and color their true values. Other deaths in France were those of Felix Edouard Vallotton, well-known painter and wood engraver; Adolphe Willette, famous for his "Pierrot" pictures, mural painter of note, lithographer, illustrator,

and poster artist; Eugene Zak, one of the ablest of modern European painters; Georges Bénédite, noted Egyptologist, director of the department of Egyptian antiquities of the Louvre; Professor A. Casanova, noted authority on ancient Egypt, professor in the College of France; Gustave Geffroy, president of the Goncourt Academy, writer and art critic; Felix Simonson, founder of the Simonson Galleries of Paris. In Great Britain died, among others, F. Derwent Wood, R. A., distinguished sculptor; Humphry Ward, art critic of the London *Times* for over forty years; Dr. Agnes Smith Lewis, famous archæologist, at the age of 93; and Wilfrid Phillips of the Leicester Galleries, London. Others included in the European death list were Bartolomé Maura, veteran engraver, of Madrid, Spain; Paul Cassirer, art dealer, collector and publisher, Berlin; Otto Ecrelman, celebrated Dutch animal painter; Pierri Astori, Italian sculptor, and Luigi Danni, art critic; in Canada, Robert F. Hagan, marine painter. See also ART EXHIBITIONS; ART MUSEUMS; ART SALES.

**PALEONTOLOGY.** See GEOLOGY.

**PALESTINE.** A territory comprising that part of historic Palestine which lies to the west of the River Jordan; formerly a vilayet of the Turkish province of Syria; since the War a new state organized under British mandate, providing a national home for the Jews.

**AREA AND POPULATION.** The area of Palestine under British mandate is about 9000 square miles. The population, according to the census of Oct. 23, 1922, was 757,182, of whom 590,890 were Moslems; 83,794 Jews; 73,024 Christians; 7028 Druses; 163 Samaritans; 265 Bahais; and the remainder Sikhs, Hindus, and Metawilehs. Capital, Jerusalem, with a population in 1922 of 62,678. Other large towns with their populations in 1922 are: Jaffa, 47,709; Haifa, 24,634; Gaza, 17,480; Hebron, 16,577; Nablus, 15,947. The Jewish settlements are grouped in the four districts of Judea, Samaria, and Upper and Lower Galilee. The total immigration into Palestine during 1925, exclusive of tourists and visitors, was officially stated at 33,801, a figure nearly equal to the combined totals for the four preceding years. The net gain by immigration during the period from the armistice to 1925 is put at 70,000. There was an accompanying movement of emigration, but this showed no increase, the 1925 figure of 2141 being about equal to that of 1924. The fact that the proportion of immigrants having independent means is rapidly increasing is considered even more important for the future economic development of the country than is the increase in the actual number of immigrants. During 1925 the class of immigrants having at least \$2400 capital for investment constituted over 42 per cent of the total immigration, as compared with only 13 per cent in 1924 and with less than 1000 persons in 1923.

**EDUCATION.** According to the latest available statistics, the schools maintained by the government numbered two training colleges, 46 town schools, and 268 village schools, with 660 full-time teachers and more than 19,110 pupils. The Christians and the Jews for the most part attend non-government schools, most of which receive aid from the government treasury. There are about 184 Christian schools with 15,700 pupils on the rolls. The Jewish organizations control 255 schools with about 25,500 pupils. Besides these, there are about 50 private Moslem schools

with 3500 pupils. In the Jewish schools, training colleges, and higher institutions, Hebrew is the language of instruction. A Hebrew University on Mount Scopus, Jerusalem, was inaugurated on Apr. 1, 1925.

**PRODUCTION.** The lowlands of Palestine—the coastal plain, which, with its large underground water supply and extraordinary fertility has been compared to the coastal plain of California—are already productive. The newer phase of the agricultural movement is towards the uplands of Judea, where the development of vineyards and of olive and orange groves promises a productivity that may even eclipse that of the lowlands. In 1924 the area under British administration, exclusive of Transjordan, produced: Wheat, 92,292 tons; barley, 32,210 tons; durra, 25,636 tons; olives, 3143 tons; and lentils, 2930 tons; in 1924-25 there were in the country 298,024 sheep, 578,160 goats, 20,294 camels, and 1238 buffaloes. Before the War the only Palestine manufactures of any noteworthy amount were those of soap and wine. During the past year or two, the industrial development of Palestine has made remarkable progress. Official estimates state that, between the armistice and the end of 1925, a total of well over \$10,000,000 had been invested in Palestine industries, and approximately 5000 persons were employed. Among the new industries are food-stuffs manufacturing, chemicals, textiles, printing and paper industries, building materials, metal works, and wood and furniture manufacturing.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, Palestine trade had shown a steady recovery since the depression of 1923, and the total volume of trade in 1925 was almost 50 per cent greater than in 1924, as is illustrated in the accompanying table:

VALUE OF PALESTINE'S FOREIGN TRADE,  
1924-1925  
[000 omitted]

Commodity group	1924 Dollars	1925 Dollars
<b>EXPORTS</b>		
Palestine products:		
Food, drink, and tobacco .....	3,796	4,366
Raw materials and semi-manufactures .....	426	332
Manufactured articles .....	1,173	1,485
Miscellaneous .....	46	287
Total .....	5,441	6,420
Specie .....	3,248	505
Transit traffic out .....	276	243
Reexports .....	643	693
Grand total exports .....	9,608	7,861
<b>IMPORTS</b>		
For consumption:		
Food, drink, and tobacco .....	6,374	9,836
Raw materials and semi-manufactures .....	1,608	3,108
Manufactured articles .....	12,906	19,637
Miscellaneous .....	2,967	3,742
Total .....	23,855	36,323
Specie .....	847	960
Transit traffic in .....	616	857
Grand total imports .....	25,318	37,640
Total trade .....	34,926	45,501

**FINANCE.** At the beginning of Lord Plumer's term as British High Commissioner in Palestine,



in the fall of 1925, the country's budget showed for the last fiscal year a surplus of revenues over expenditures of £E250,000, and the government's accumulated reserve fund had increased to a total of £E500,000. For the year 1925-26 the receipts were estimated at £E2,533,855 and the expenditure at £E2,166,601. The main heads of revenue were customs, house and land tax, animal tax, tobacco tax, tithes, stamp duties, excise duties on wines, spirits and salt, court fees, land registry fees, railways, and posts and telegraphs.

**COMMUNICATIONS.** For the calendar year 1925, 754 steamers of 1,831,619 tons and 1718 sailing vessels of 27,423 tons entered the ports of Palestine, and 744 steamers of 1,798,870 tons and 1728 sailing vessels of 28,034 tons cleared. The railway mileage totals slightly over 774 miles and is all operated by the government.

**GOVERNMENT.** Under the constitution adopted on Sept. 1, 1922, executive power is vested in a High Commissioner and an executive council, and legislative power in a body of 22 members besides the High Commissioner, consisting of 10 official and 12 unofficial members. The latter are elected and there must be not less than two Christian and two Jewish members. The Jewish population has an unofficial elected National Committee to represent the Jewish population in its dealings with the administration. High Commissioner at the beginning of the year, Field Marshal Lord Plumer.

**HISTORY.** The year was a comparatively quiet one in Palestine. A delegation of Arabs appeared before High Commissioner Lord Plumer in February and complained about the entire system of government, including the mandatory system, the administration of Sir Herbert Louis Samuel, and the local government. Lord Plumer refused to discuss these matters with them, and stated that he intended to improve agriculture, abolish the tithe, and extend education. He refused to give up the control exercised over Arab education, but promised measures to regulate the rights of religious communities. The gendarmerie was abolished; this was done partly as a means of reducing expenditures and partly because the country was enjoying complete peace and hoped to do so for some time to come.

Late in November a report was issued by Dr. Henry S. Pritchett to the Carnegie Endowment, concerning conditions in Palestine. The report was decidedly unfavorable to the Zionist movement. It is discussed at length in the article *Jews, Zionism*.

**PANAMA.** A republic of Central America, lying between Costa Rica and Colombia, constituting an independent state after November, 1903; formerly a department of Colombia. Capital, Panama.

**AREA AND POPULATION.** Panama has an extreme length of 480 miles, and its width varies from 37 to 110 miles. The area is estimated at 32,380 square miles; population, according to the census of 1921, 442,486. The natives are a mixed race, combining Spanish, Indian, and negro blood. The larger cities are: Panama, the capital, 59,458; Colon, 31,203.

**EDUCATION.** Primary education is compulsory for all children from 7 to 15 years of age. The government maintains 429 public schools, with 1149 teachers and an enrollment of approximately 40,000. There are at Panama a normal school for girls, a technical school for boys, and the National University.

**PRODUCTION.** Panama possesses a very rich soil, but only a very small part of it is properly cultivated. The chief product is the banana, but the growing of coffee, sugar and tobacco is becoming important. The banana crop of 1925 was provisionally valued at \$1,500,000. Coffee is grown in the regions along the Costa Rican frontier. Other products include rubber, cocoa, coconuts, cabinet woods, copaiba, sarsaparilla, and ipecacuanha. The mineral resources are highly varied but undeveloped, with the exception, in a small way, of manganese and gold. The pearl fishing industry is of some importance.

**COMMERCE.** The accompanying table gives the trade of Panama over a ten-year period:

TEN-YEAR TABLE OF THE FOREIGN TRADE OF PANAMA

Year	Imports	Exports	Total
1915.....	\$9,087,200	\$3,422,755	\$12,459,955
1916.....	9,197,370	5,506,725	14,704,095
1917.....	9,233,170	5,624,176	14,847,346
1918.....	7,821,660	2,899,557	10,721,217
1919.....	11,406,880	3,757,028	15,163,908
1920.....	17,561,994	3,552,166	21,114,160
1921.....	11,680,769	2,495,407	14,156,176
1922.....	10,268,550	2,487,479	12,756,029
1923.....	12,675,249	2,389,728	15,064,977
1924.....	13,769,435	3,008,014	16,777,449

Preliminary figures for 1925 showed imports valued at \$14,600,000. Exports to the United States were \$2,400,000, which was less than in 1924 by more than \$200,000.

**FINANCE.** On Apr. 2, 1925, the National Assembly approved the budget for the biennial period from July 1, 1925, to June 30, 1927, as follows: Revenues, \$12,258,700; expenditures, \$12,258,700, divided as follows: Department of Government and Justice, \$3,552,124; Foreign Relations, \$709,190; Treasury, \$2,567,062; Public Instruction, \$2,826,200; Agriculture and Public Works, \$2,604,124.

**COMMUNICATIONS.** It was reported in 1926 that the Panama government was planning to develop more of the rich coffee country in Chiriqui Province and to this end had awarded a contract to F. H. Arosemena, a citizen of Panama, to build a single-track railroad, 32 miles long, from Concepcion to Puerto Armuelles, as an extension of the Chiriqui National Railroad and to build a 1300-ft. reinforced-concrete pier at the new deep-water harbor at Puerto Armuelles. Approximately \$3,000,000 will be expended on these improvements. Under this contract the railroad, which will be of 3-ft. gauge, will be equipped with locomotives and other rolling stock, and there will be 45 structural steel and 13 girder bridges along the line.

**GOVERNMENT.** Under the constitution adopted Feb. 13, 1904, and amended Dec. 26, 1918, executive power is vested in the president elected for four years and ineligible for the succeeding term; and legislative power in a chamber of deputies of 46 members elected for four years. President at the beginning of the year, Rodolfo Chiari, assumed office Oct. 1, 1924.

**HISTORY.** From the 18th to the 25th of June a centenary celebration was held in Panama to commemorate the first Pan-American Congress called by Simon Bolivar at Panama, June 22, 1826. Delegates from 21 republics, as well as representatives of many universities and societies, attended the celebration and participated in its proceedings.

On December 20, the contents of a treaty

signed between the United States and Panama were officially published in Washington. The treaty had been negotiated on July 28. The chief provision was that which provided for close co-operation between the two governments in case of war. In case of war in which the United States was a belligerent, Panama was to turn over to the United States, during actual or threatened hostilities, the control and operation of wireless and radio communication, aircraft, aviation centres, and aerial navigation. The United States was also to have charge of all military operations in the Panaman republic. In times of peace the United States was to have free access to all parts of Panama for military maneuvers, providing due notice was given. The United States was also given the power to expropriate private lands, and was given a perpetual control over Manzanilla Island, at the Atlantic terminus of the canal, and Colon harbor. The United States Senate did not take any action on the treaty before it began its Christmas recess.

**PANAMA CANAL.** Transits of commercial vessels through the Panama Canal in the year ending Dec. 31, 1926, totaled 5420. This established a new high record for number of commercial transits, as compared with the previous record of 5230 for the fiscal year ending June 30, 1924. Tolls collected during the year 1926 amounted to \$23,901,540.04, which was less than the \$24,290,963.54 collected in the fiscal year ending June 30, 1924, and was the second largest amount collected in a year.

From the opening of the Panama Canal to traffic on Aug. 15, 1914, to the close of business on Dec. 31, 1926, a total of 37,599 commercial vessels have transited the Canal, paying \$154,064,037.71 in tolls.

In the following tabulation, from the *Panama Canal Record*, the number of commercial transits and the amount of tolls collected are shown for the calendar year 1926, with comparative totals for the calendar years 1925 and 1924:

Month	Transits	Tolls
January .....	479	\$2,103,868.29
February .....	424	1,835,226.47
March .....	506	2,206,212.20
April .....	425	1,917,457.11
May .....	470	2,056,965.55
June .....	419	1,852,670.66
July .....	456	1,980,719.67
August .....	464	2,055,041.91
September .....	446	2,019,626.42
October .....	445	1,989,213.93
November .....	428	1,889,001.11
December .....	458	1,996,036.72
Totals, calendar year 1926 ..	5,420	23,901,540.04
Totals, calendar year 1925 ..	4,774	21,380,759.70
Totals, calendar year 1924 ..	4,898	22,809,416.84

During the calendar year 1926, 1262 tank ships transited the Canal, carrying a total of 7,117,408 tons of mineral oil products. These vessels had a combined net tonnage of 7,323,942, Panama Canal measurement, on which tolls of \$6,447,399.40 were collected. Tank ships comprised 23.1 per cent of the total commercial transits during the year; 28.3 per cent of the total Panama Canal net tonnage; 26.9 per cent of the total tolls collected; and 25.7 per cent of the total cargo carried in commercial vessels through the Canal during the year.

Expressed in terms of percentage, the following tabulation shows the volume of tanker traffic through the Canal during the past 4 years:

Calendar year	Number of transits	Per cent of total Panama Canal net tonnage	Tolls	Tons of cargo
1923 .....	33.8	40.7	39.0	38.2
1924 .....	31.1	32.7	31.2	31.1
1925 .....	20.4	25.1	23.6	22.5
1926 .....	23.1	28.3	26.9	25.7

Vessels of 24 nationalities made up the total commercial traffic through the Panama Canal

Nationality	Number of transits	United States equivalent	Panama Canal net	Tonnage		Tolls	Tons or cargo
				Gross	Net		
Argentinian .....	1	(*)	(*)	(*)	(*)	\$1,200.00	.....
Belgian .....	22	78,967	94,478	123,869	77,979	91,161.20	109,531
British .....	1,382	5,445,135	6,979,798	8,817,278	5,469,792	6,580,583.92	6,932,287
Chilean .....	28	95,785	127,959	198,654	107,539	119,617.35	90,725
Colombian .....	44	8,479	9,408	13,552	7,996	10,375.68	10,429
Danish .....	64	189,239	241,132	290,627	186,562	227,365.56	905,781
Danzig .....	26	138,638	172,278	222,796	127,337	150,666.72	159,599
Dutch .....	102	410,249	546,824	663,866	407,769	513,606.14	549,721
Ecuadorian .....	2	146	146	442	156	109.50	.....
Finnish .....	1	1,893	1,889	2,039	1,880	2,266.80	3,100
French .....	105	386,648	487,106	627,328	385,203	472,799.32	469,678
German .....	180	532,315	732,063	867,237	530,600	663,766.89	900,426
Greek .....	4	12,756	15,894	20,738	12,932	14,811.34	21,411
Honduran .....	16	16,785	22,781	27,815	16,756	20,521.10	4,798
Italian .....	84	316,490	372,577	505,511	308,281	392,307.82	340,385
Japanese .....	137	587,174	681,852	866,431	569,558	719,653.40	802,189
Mexican .....	2	3,258	4,184	5,766	4,075	4,072.50	8,209
Norwegian .....	301	688,847	918,057	1,112,187	681,198	811,868.17	1,065,839
Panaman .....	85	54,385	89,260	117,163	74,904	87,496.19	72,808
Peruvian .....	55	87,595	131,693	196,367	107,488	109,589.60	102,907
Spanish .....	27	83,950	104,144	143,891	87,650	108,934.59	88,108
Swedish .....	99	289,826	393,080	517,423	347,262	331,351.88	646,741
United States .....	2,638	10,778,849	13,653,338	17,329,229	10,769,786	12,488,253.23	14,854,768
Yugo-Slavic .....	15	48,154	60,450	74,065	47,113	59,161.64	101,661
Totals, 1926 .....	5,420	20,254,503	25,836,241	33,044,274	20,329,791	23,901,540.04	27,586,051
Totals, 1925 .....	4,774	18,141,695	22,958,158	29,868,840	18,228,704	21,380,759.70	23,701,227
Totals, 1924 .....	4,898	19,414,771	24,411,760	31,127,724	19,440,024	22,809,416.84	25,892,184
Totals, 1923 .....	5,087	19,979,628	24,787,437	31,658,095	19,921,670	22,966,888.18	25,160,545

\* Displacement tonnage.

during the calendar year 1926. Approximately one-half of the total commercial transits were vessels of the United States, one-fourth vessels of Great Britain, and the remaining one-fourth were distributed among the remaining 22 nationalities.

The accompanying tabulation shows the total commercial traffic through the Canal during the calendar year 1926, segregated according to the nationality of the vessels.

**PANAMA CANAL ZONE.** The strip of land five miles wide on each side of the Panama Canal granted to the United States in the treaty of Nov. 18, 1903. Area, 441½ square miles, of which 106½ are taken up by Gatun Lake; civil population, June 30, 1926, 27,692, of whom 7990 were Americans. The above-mentioned treaty provided that the cities of Panama and Colon were to remain within the jurisdiction of Panama, but the United States was to have control over both the cities and their harbors in matters pertaining to sanitation and quarantine. The status of the zone is that of a military reservation under the governor of the Panama Canal, appointed by the President of the United States. Governor in 1926, Col. Meriwether L. Walker, U.S.A. See PANAMA CANAL.

**PAN AMERICANISM.** Brazil's revolt from the League of Nations was variously received in South America, and everywhere it was widely discussed. Skeletons long shut in diplomatic closets were dragged out, and numerous side issues were found to complicate the announced reasons for the Brazilian revolt. Even the United States was brought in, with uncomplimentary references, being credited in some quarters with planning to form a league of nations in the western hemisphere "to oppose or rival the League of Geneva."

One of the chief motives for Brazil's policy, according to *Nuestro Diario* of Guatemala, was the suppression of Argentina's ambition to become leader of Latin America in the League of Nations. Brazil opposed the entrance of Germany to the League largely because Argentina favored it. Argentina might have supplanted Brazil as temporary leader of Latin America in the world assembly, believes this critic, if Germany's entry had gone through as planned. *El Guante*, of Ecuador, showed about the same trend of thought, adding that the membership of 17 Latin-American nations in the League of Nations was absurd, and incompatible with the Monroe Doctrine and the Pan American Union, the latter being practically a league of nations itself.

In *Listin Diaria*, of Santo Domingo, was printed the following declaration: "There is an increasing probability that the American republics will turn toward the League of Nations in search of a solution for their political controversies, and probably for protection against the United States. Washington retaliates by planning the formation of a continental league of nations to oppose or rival the League of Geneva, all with the coöperation of Latin America. Let us beware of the trap set for our young nations."

As a matter of fact, no steps seemed to have been taken toward establishing an American league of nations. At the fifth international conference of American states, held at Santiago, Chile, in 1923, the following topics were included in the programme; (A), consideration of measures tending toward closer association of the American republics, with a view to promoting

common interests; (B), consideration of the questions arising out of an encroachment by a non-American power on the rights of an American nation.

These topics were included at the suggestion of the Uruguayan government, and J. Antonio Buero was appointed *Ponente* on the topics at Santiago. No definite project was submitted or considered. The Conference adopted a resolution authorizing the Governing Board of the Pan American Union to study any project that might be submitted by any American government tending toward the closer association of the American republics. This resolution was forwarded to each member of the board, but no project has ever been received by the Union. See PAN AMERICAN UNION; LEAGUE OF NATIONS.

**PAN AMERICAN UNION.** An international organization maintained by the 21 American republics for the development among them of good understanding, friendly intercourse, commerce, and peace. It is controlled by a Governing Board composed of the Secretary of State of the United States and the diplomatic representatives in Washington of the other republics, and is administered by a director general and assistant director chosen by this board. The fiscal year 1925-6 witnessed the broadening of the Union's activities. Especially notable was the increasing number of requests made by governments or peoples of the American continent for commercial, industrial, financial, and educational information.

During the year, three important Pan American meetings were held: The First Pan American Congress of Journalists, with representatives from each republic of the continent, assembled in Washington, and had a success surpassing all expectations; the second Pan American Red Cross Conference, which assembled in the Union's building, with representatives from all of the American continent that possess Red Cross societies, and at which future plans for coöperation were established; and a congress commemorative of the first Pan American Congress called by Bolivar in 1826, which met at Panama and established there the Bolivarian University. The activities of the Union to give effect to the treaties, conventions, and resolutions of the fifth international conference progressed, and the programme of the sixth conference was prepared. During the year, plans were made effective to stimulate the study of Latin American history and culture in the schools of the United States, programmes of study and much illustrated material being furnished.

Among the publications of the Union in use in universities, colleges, and schools throughout the United States were *Seeing South America*, *Ports and Harbors of South America*, *Seeing the Latin Republics of North America*, and *Viajando Por Los Estados Unidos*. In addition to these, the Union publishes a *Bulletin*, in Spanish, Portuguese, and English, and booklets on South American countries, their capitals, products, agriculture, education, etc. During the year about 50 of these were published. Statistical matter compiled by the Union relates to inter-American commerce, and includes a general survey of Latin American trade for the year. The Union extended its services to women's clubs, and gave radio nights, introducing Latin American music in the United States. The Pan American Sanitary Bureau, located in the Union's building,

places at the disposal of the republics of the continent the results of the sanitary progress of the year. It issues the *Pan American Sanitary Bulletin* monthly and distributes it throughout the Latin American republics. The library added extensively to its collection during the year. One of the notable events of the year was the assemblage of all the Latin American ambassadors and ministers at the Sesqui-Centennial Exposition in Philadelphia, this meeting being brought about by the Union in coöperation with the Sesqui-Centennial authorities. The director general was Dr. L. S. Rowe, and Dr. Esteban Gil Borges was assistant director. The headquarters are at Washington, D. C., in the Pan American Union Building.

**PAN PACIFIC UNION.** Nineteen years of consistent service of the Pan Pacific Union, through its organizer and director, Alexander Hume Ford of Honolulu, for the advancement of understanding, goodwill, and coöperation among the races and nationalities of the Pacific countries, had made a deep impression on the minds of the younger generation in Pacific lands, in arousing a common Pacific consciousness in the developing minds of the future leaders of the nations bordering on the Pacific Ocean. In their promotion of international understanding and friendship, Dr. Dai Yeng Chang, Shinji Maruyama, Dr. Y. C. Yang, N. C. Dizon and the late Albert Burkland, and other young leaders, assisted the work of the Union among young Chinese, Japanese, Koreans, Filipinos, Anglo-Saxons, and other races. It was through their leadership that the Pan-Pacific Good Relations Clubs, a junior organization, were organized, and these form the nucleus of a proposed Junior Pan Pacific Union.

It is largely through indirect efforts and influences that the younger people of the Pacific lands were coming closer to the Pan Pacific movement to bring about pan Pacific peace and prosperity. John Matsumura, T. Suzuki and Kempei Sheba, in 1926 resident in Japan, but for some years members of the Pan-Pacific Good Relations Club of Honolulu, were helping to organize a Junior Pan Pacific Club in Tokyo. A similar effort was also being made by a group of students at Foochow, China. Young people at both Peking and Shanghai were also taking up the matter, in which the youth of southern Pacific countries as well as those of the Pacific coast of North America were active.

According to the educational director of the Union, Colbert N. Kurokawa, the student movement in China will have a great effect in determining the future path of the rising republic. "Students in Japan," he says, "are also organizing their efforts to voice their sentiments in national as well as international problems and should work with their elders. Students of the American continents are even more energetic than those of other lands in their cry for justice and peace. The youths of the Pacific countries are now entering upon a new epoch of renaissance. They are waking, speaking, and commencing to act, and there is nothing that can suppress them." The Students' Bureau of the Pan Pacific Union had already taken steps toward closer coöperation of the student movement of one nation with that of another, and was promoting the organization of junior unions, which would develop into a Pan Pacific Student Federation of all races and nationalities of the Pacific.

Student migration across the Pacific has been constantly increasing until by 1926 there were nearly 5000 Oriental students studying at the institutions of higher learning on the American continent. It was conservatively estimated that nearly 1000 of these crossed the Pacific annually, most of them passing through Honolulu. There was no more fertile soil for international friendship than in the students' field to-day. The Union, through its junior organization, encourages and assists the exchange between the Pacific countries.

Around the Pacific Ocean, September 17 is known as Balboa Day, and it is made the occasion of annual celebrations to emphasize Pan Pacific good will. It has been usual on these occasions to exchange cablegram greetings around the Pacific and to make striking announcements. In 1926 the Union sent delegates in an advisory capacity to the deliberations of the Second Oriental Red Cross Conference held in Tokyo, November 15 to 25. The Union was desirous of having a Pan Pacific Red Cross Conference convene in Honolulu in 1927 with the hopes that a series of Red Cross Conferences might be held annually in turn in the different countries of the Pacific.

The Pan Pacific Union, as such, publishes the *Bulletin of the Pan Pacific Union*. The *Mid-Pacific Magazine* is published as an organ of the Union, but at no expense to the Union. The *Journal of the Pan Pacific Research Institution*, while sponsored by the Union, is edited entirely by the staff appointed by the scientists of the Institution, Dr. David Starr Jordan, of Leland Stanford University, Dr. Frederic Krauss of the University of Hawaii, Atherton Lee, plant pathologist at the Hawaiian Sugar Planters' Association and R. H. Van Zwalenburg, entomologist, assuming the greater share of the work, with assistant staff editors in every Pacific land. Some thousands of these *Journals* are distributed among scientists of the world.

In 1926 this *Journal* was a quarterly and it had undertaken to secure and publish a check list of the fish of the Pacific, which perhaps would be corrected and brought up to date for republication biennially. In a similar way the trees and plants of the Pan Pacific area were being treated as well as the injurious insects and their parasites and the diseases of plants. A list of the research institutions and research workers in Pacific lands was being prepared and published in the *Journal*.

*Youth*, a quarterly, edited by C. N. Kurokawa, Educational Secretary of the Pan Pacific Union, was in preparation, in 1926 and its initial number was to be issued in the following year. This publication aimed to deal largely with the problems of young men graduating from universities in Pacific lands, and beginning their life work. Mr. Kurokawa at one of the gatherings of the Pan Pacific Good Relations Club in Honolulu suggested the preparation of a list of all the young orientals who spoke English residing in Pacific lands, so that efforts might be made towards bringing about among them a better knowledge of one another. He has kept at this consistently, and now that he is connected with the Pan Pacific Union this work will go on.

Mr. Kurokawa was promised the assistance of the graduating students of all races in Hawaii, and also the help of some of the students at the Pan Pacific Research Institu-

tion. A building, the Albert Burkland Memorial, was set aside on the grounds and a dozen students taking science courses were to be given a home and income here to pursue their studies and to act as helpers to the scientists, and to those working on racial problems.

**PAPER.** The paper and pulp industry in the United States in 1926 had a production in excess of that of the previous year. A number of the large lumber and pulp producing companies were cultivating their own forest tracts to secure adequate supplies of wood pulp, from which 95 per cent of the paper used was made. Wood pulp production in the United States in 1926 was estimated by the American Paper and Pulp Association at 4,300,000 net tons, as against 3,953,381 tons in 1925, the different varieties of pulp produced being indicated herewith:

Grade	1926 Tons	1925 Tons
Ground wood .....	1,800,000	1,603,262
Sulphite .....	1,500,000	1,391,207
Sulphate .....	460,000	409,868
Soda .....	500,000	484,546
Screenings .....	40,000	64,698

In addition, the United States imported pulp wood for paper stock to the amount of 1,383,619 cords, valued at \$14,176,256, as compared with 1,483,231 cords, valued at \$15,129,562 in 1925, and pulp and other stock aggregating 1,848,387 tons valued at \$107,350,552, as compared with 1,831,909 tons valued at \$103,065,132 in 1925. Mechanical ground wood imported was less in 1926 than in the previous year, as was bleached sulphate pulp, but sulphite, both bleached and unbleached, and unbleached sulphate, were greater than in the previous year.

Paper production in 1926 was estimated by the American Paper and Pulp Association, at 10,000,000 net tons, including all paper and paper productions for the year, as against 9,182,204 tons in 1925. Separated into various grades, the estimates for 1926, compared with the statistics for 1925, were as follows:

Grade	1926 (estimated) Tons	1925 Tons
Newsprint .....	1,686,695	1,590,318
Book paper .....	1,380,000	1,343,310
Board .....	3,650,000	3,280,710
Wrapping .....	1,450,000	1,297,919
Fine .....	500,000	478,804
Tissue .....	295,000	281,243
All other .....	1,038,305	974,900

In 1926 there were in the United States 1913 paper machines, with an annual daily capacity of 12,000 tons, which were working at about 84 per cent capacity, giving an annual production in excess of 10,000,000 tons. The largest of these machines turned out a sheet of paper 270 inches wide and operated at a rate of 100 feet per minute. During the year, 28 new machines with a 24-hour capacity of 1238 tons were installed in the United States, distributed as follows:

	No. machines	Capacity
News .....	1	75
Book .....	12	525
Board .....	2	190
Wrapping .....	8	365
Writing .....	0	0
Tissue .....	2	45
Hanging .....	0	0
Felts and bldg. ....	0	0
All other .....	3	38

This compares with 24 machines, of 998 tons capacity, in 1925, and 33, with 1189 tons capacity, in 1924.

In 1926 Canada secured the world leadership in the manufacture of newsprint paper, furnishing 1,882,000 tons, or an increase of some 24 per cent over the previous year, and surpassing the output of the United States, estimated at 1,687,000 tons. The entire North American production of newsprint paper in 1926 was estimated at 3,768,000 tons, which was 600,000 tons or 19 per cent ahead of the previous year, the industry making a high operating record of 96 per cent of the rated capacity. While the United States' production was greater by 156,000 tons, or 10 per cent, than the previous high record of 1925, there was a gain of 93 per cent in Newfoundland, as new plants and operations came into production and brought the total of the country up to 186,000 tons. Mexico produced 13,000 tons of newsprint, or 6 per cent more than in the previous year.

The United States in 1926 consumed, in round numbers, 3,500,000 tons of newsprint, or 56 per cent of the world's consumption. This took all but 19,000 tons of the United States' output, 49 per cent of the Newfoundland productions, 88 per cent of the Canadian production, and 102,000 tons of overseas newsprint, the importation of which, however, was declining from the 200,000 tons of 1923. In addition to the consumption referred to, 100,000 tons of the available supply in 1926 went into stock. The actual consumption of newsprint per capita in the United States was at the rate of 58 pounds, as compared with 52 pounds in 1925. This was an increase of 12 per cent, while the increase in total consumption was 14 per cent, or twice the average increase during the previous 25 years.

The imports of paper and paper products into the United States in 1926 amounted in value to \$139,537,144, as against \$119,200,611 in the previous year. Nearly 90 per cent of these imports consisted of standard newsprint, valued at \$123,981,715, as against imports valued at \$103,717,055 in 1925. The United States exported in 1926 paper and paper products valued at \$26,828,674, the highest figure since 1921, when the exports were about \$29,000,000.

The Norwegian pulp and paper industry in 1926 experienced, in the main, unsatisfactory conditions, due to the advance of the Norwegian crown (resulting in an increase in production costs), a strike in the pulp industry beginning in the middle of August and lasting for nearly seven weeks, the British coal strike, and the general downward price trend in the international paper market. The strike resulted in a reduction of 15 to 17 per cent in the wages of the paper mill workers, due to the lower prices of paper in the world markets. Outside the strike period, the pulp mills were running practically at capacity, and the year's total output was not far below that of 1925, when a total of 833,958 metric tons (of 2205 pounds each) was exported. The 1926 production for export consisted of 110,945 metric tons of bleached sulphite, 119,000 tons of unbleached sulphite, and 20,000 tons of sulphate pulp, a total of 249,945 tons, while, in addition, it was estimated that some 88,000 tons were manufactured for domestic consumption, thus bringing the total production for the year up to 337,945 tons. The output for 1925 was 271,053 tons. Mechanical ground wood was pro-

luced for export in 1926, to the amount of about 100,000 tons, or less than in 1925, when 597,908 tons were exported. The United States and Great Britain were the leading consumers of Norwegian pulp, followed by France and Belgium.

In 1926 the total chemical pulp production in Sweden was estimated at 1,430,000 metric tons, an increase of approximately 10 per cent over the preceding year, with indications of an output of more than 2,000,000 tons in 1927. Mechanical ground wood production during 1926 was reported to have reached 470,000 tons, dry weight. There was an increased exportation of chemical pulp during the year, making a new record, and the United States was the leading customer. There was also an increase in the exports of sulphite pulp, while mechanical pulp remained at practically the same figure as in the previous year, being, in 1926, 212,878 tons. Sweden exported 174,039 tons of newsprint paper in 1926, as against 172,276 tons in 1925, and 93,935 tons of various kinds of paper, excluding board and vegetable paper, as compared with 82,589 in 1925.

In Belgium the paper industry experienced alternate periods of activity and depression during 1926, with all mills working at full capacity in the first part of the year, succeeded by increased production costs and lack of orders later in the year. The imports of wood pulp were greater than in 1925, and also the increase in the imports of paper. Belgium imported about 10 per cent and exported 40 per cent of the paper figuring in its foreign trade. See CHEMISTRY, INDUSTRIAL.

**PAPUA**, pā'pū-ā. A territory of the Australian Commonwealth, comprising the southeastern part of the island of New Guinea and all the groups of small islands between 8° and 12° S. latitude and 141° and 155° E. longitude; formerly known as British New Guinea; transferred to the Australian government Sept. 1, 1906. Area, 3,540 square miles, of which about 87,786 are in the island of New Guinea. On Apr. 4, 1923, the population was as follows: Europeans, 1086; apuans (estimated), 275,000. Port Moresby is the capital and a port of entry. Other ports of entry are Samarai, Daru, and Kulamadau.

A large proportion of the natives are civilized, and many of them are taught in schools maintained by the four Christian missions in the territory. While freehold alienation of the land is not permitted, leases are obtainable at low rentals, 188,348 acres being leased in this manner. On Dec. 31, 1924, there were 61,180 acres of plantations. The chief crops are coconuts 48,022 acres), rubber (7846 acres), and sisal hemp (3878 acres). The forests contain valuable timber, and the mineral resources, which are considerable, include gold, copper, osmiridium, lead, zinc, tin, and iron. The only minerals exported have been gold, copper, and osmiridium. Indications of petroleum have been found over an area of 1000 square miles, and borings were being continued in 1926 under the auspices of the Australian government. The chief imports are foodstuffs, tobacco, drapery, and hardware; the chief exports are copra, gold, hemp, pearls, and rubber. The exports in 1925 were valued at 367,620 and the imports at £459,080. There is considerable trade between Australia and Papua, steamship communication being regularly maintained; 78,113 tons entered and cleared in 1925. The local revenue in 1925 was £82,908

and the expenditure, £143,830. The Australian government grants an annual subsidy of £50,000. The territory is administered by a lieutenant-governor appointed by the governor-general of Australia, and an executive and a legislative council, both consisting of official or nominated members. Lieutenant-governor and chief judicial officer, Sir J. H. P. Murray.

**PARAGUAY**, pār-ā-gwā. An inland republic of South America; bounded on the west and south by Argentina, on the east by Argentina and Brazil, and on the north by Brazil and Bolivia. Capital, Asunción.

**AREA AND POPULATION.** The estimated area of Paraguay proper, which lies between the Paraguay and Alto Paraná Rivers, is estimated to be 61,647 square miles; in addition, Paraguay lays claim to a tract between the Paraguay and Pilcomayo Rivers known as the Chaco; the ownership of this territory, however, is disputed by Bolivia. In 1917 the population was estimated at 1,000,000, exclusive of Chaco Indians, who were estimated roughly at 50,000. The fact that some authorities thought this estimate too high was borne out by the Director of the Section of Agriculture and Agricultural Defense of the Ministry of the Treasury, who estimated the population in the middle of 1926 to be 853,321, with a density of 13.58 to the square kilometer. In Paraguay proper the people are of mixed blood; namely Guarani, Indian, Spanish, and Negro, the first mentioned predominating. The largest cities with their populations, estimated Sept. 30, 1920, are Asunción, the capital, 99,836; Villarrica, 26,000; Concepción, Luque, and Carapeguá, each 15,000; and Encarnación, 12,500.

**EDUCATION.** According to the 1926 report of the General School Bureau of the Ministry of Public Instruction, 79,352 children were enrolled in the public and private schools of the republic in 1925. However, since the probable number of children of school age is 160,000, more than half were not in school. The total number of primary schools, both public and private, was 679, while there were seven normal schools. There were 1715 primary teachers, of whom 494 held normal school certificates. There are secondary schools at Asunción, Villarrica, and Pilar and a National University at Asunción.

**PRODUCTION.** Stock raising and agriculture are the chief occupations of the people. The latter has not been developed to a very high state of efficiency because of the sparse population and the inadequate means of transport. Among the more important products are cotton, yerba (native tea), tobacco, sugar, corn, roots, coffee, rice, and beans. Cattle raising is the most promising industry in Paraguay, as the country is admirably adapted by nature for this purpose, and the market offered by three packing plants operating within the republic has given a great impetus to the development of the industry. The three principal cattle regions are the Missions, the northern section, and in the Chaco. Pasture lands could be bought for 5000 to 20,000 pesos gold per square league (4632 acres). Prices in the interior of the Chaco were still lower; due, however, to the advent of the packing plants land values were rising rapidly. Conservative cattlemen were disposed to estimate the 1926 stock of cattle at about 3,500,000 head. The mineral resources include iron, manganese, and copper, in deposits of considerable extent.

In some sections petroleum was found in commercial quantities. With the exception of the quebracho and sugar industries, manufacturing in Paraguay was only in its infancy, and the few products manufactured—furniture, shoes, cigarettes, beer, and vegetable oils—were mostly for local consumption.

## CHIEF IMPORTS OF PARAGUAY DURING 1925

	Amount	Value Gold pesos
Sugar .....	kilos. 3,001,084	290,218
Flour .....	kilos. 11,909,206	736,250
Wheat .....	kilos. 10,623,642	398,313
Potatoes .....	kilos. 936,025	59,896
Bottled wines .....	liters. 17,677	14,816
Wines in casks .....	liters. 1,289,994	132,282
Motor trucks .....	95	63,423
Automobiles .....	68	43,787
Woolen textiles .....	kilos. 44,578	192,471
Cotton textiles .....	kilos. 1,798,623	2,908,598
Silk textiles .....	kilos. 14,854	202,148
Pianos .....	53	16,001

**FINANCE.** The financial situation in Paraguay improved decidedly in 1925. The government's economy, coupled with its resolution to meet foreign and domestic obligations, increased general confidence. The outstanding events of the year were the payments on the foreign debt and the establishment of a German bank at Asunción. In accordance with the terms of the London agreement of Sept. 4, 1924, monthly payments of £4381 were made throughout the year. At the close of the financial year 1924-25, on November 30, the Paraguayan public debt amounted to 7,234,311 Argentine gold pesos and 38,211,476 Paraguayan paper pesos (the Argentine gold peso equaled \$0.9138, at the average rate of exchange in 1925; the Paraguayan paper peso, \$0.02 in the same year), as compared with 8,890,384 gold pesos and 198,288,337 paper pesos on Jan. 1, 1925. The external debt was 5,647,696 Argentine gold pesos. The internal debt (consolidated) was 1,523,926 gold pesos and 21,385,303 Paraguayan paper pesos; while the internal debt (floating) stood at 62,689 gold pesos and 16,826,173 paper pesos. The custom house receipts in 1925 totaled 1,395,148 gold pesos and 114,155,780 paper pesos. Internal revenue receipts in the same year amounted to 4861 gold pesos and 55,972,575 paper pesos. The only official currency in circulation in Paraguay consists of paper notes of the value of 1000, 500, 200, 100, 50, 10, and 5 pesos; and nickel coins of 2, 1, and 0.50 pesos each. The budget estimates for 1925-26 were as follows:

Expenditures	Pesos gold	Pesos legal currency
Legislative Congress .....		4,488,800.00
Department of Interior ..	179,114.04	89,391,585.04
Department of Foreign Relations .....	229,680.00	1,444,800.00
Department of Treasury	153,890.16	33,675,945.48
Department of Justice, Worship, and Public Instruction .....	53,720.04	36,515,440.74
Department of War and Marine .....	308,960.00	31,008,163.68
Public debt .....	553,459.00	18,291,542.16
<b>Total expenditures</b> ..	<b>1,476,823.24</b>	<b>164,766,227.10</b>
Revenues	Pesos gold	Pesos legal currency
Customs receipts .....	1,159,080.00	108,780,000.00
Internal revenue .....	6,100.00	51,255,200.00
Postal and telegraph re- ceipts .....	200.00	5,842,000.00
Various revenues .....	81,000.00	3,077,000.00
Other revenues .....	1,900.00	5,428,064.00
Extraordinary revenues ..	2,100.00	102,000.00
<b>Total revenues</b> ....	<b>1,250,380.00</b>	<b>174,484,264.00</b>

**COMMUNICATIONS.** In 1924, 3133 vessels with an aggregate tonnage of 229,433 tons entered the port of Asunción, and 3106 with a tonnage of 228,366 cleared. The total length of railway mileage was given at 517, the country depending to a great extent upon its navigable rivers, which provide cheap and easy means of transportation.

**GOVERNMENT.** Executive power is vested in a president, who acts through a responsible ministry of five members; and legislative power in a congress of two houses; a senate of 20 members and a house of representatives of 40 members, elected directly by the people. President, Dr. Eligio Ayala, who assumed office on Aug. 15, 1924.

**HISTORY.** The outstanding event of the year was a hurricane which wrecked the City of Encarnación on September 20. The loss of life was placed at 200 and the property damage at \$1,000,000. Encarnación, a city of 12,500 inhabitants, is in eastern Paraguay. A part of the city was completely wiped out, and many vessels in the Paraná River were wrecked.

**PARASITES, ANIMAL.** See **VETERINARY MEDICINE.**

**PARK COLLEGE.** A non-sectarian institution of higher education at Parkville, Mo.; founded in 1875. The enrollment for 1926-27 totaled 464, distributed as follows: Seniors, 51; juniors, 92; sophomores, 100; freshmen, 168; special students, 12; graduate students, 1; preparatory, 40. The faculty numbered 28; three professors, one associate professor, and three instructors were added during the year. The endowment funds of the college amounted to \$1,488,000, and the income for the year was as follows: From endowment, \$79,413; tuition and fees \$58,298; donations, \$39,050; other sources, \$11,370. Special gifts received were \$13,500 in land, \$100,000 for a new dormitory, and \$25,000 by legacy. There were over 30,000 volumes in the library. President, Frank William Hawley, D.D., LL.D.

**PARKER, ALTON BROOKS.** American jurist and Democratic candidate for the Presidency in 1904, died May 10, at New York. He was born at Cortland, N. Y., May 14, 1852, and was a student at Cortland Academy and Cortland Normal School. In 1873 he graduated as LL.B. from Albany Law School, and in 1877 was elected surrogate of Ulster County; he held that post until 1885. In 1884 he was a delegate to the Democratic National Convention, and in 1885 he successfully managed the Democratic gubernatorial campaign. In the following year he was appointed by Governor Hill to the Supreme Court. He was transferred to the Appellate Division in 1889, and became, in 1898, Chief Justice of the New York Court of Appeals. In 1904, he resigned to accept the Democratic nomination for the Presidency. On this occasion he sent his famous "gold telegram" to the Democratic convention, declaring for the gold standard. After his defeat by Theodore Roosevelt he resumed the practice of law in New York City. He was temporary chairman of the Democratic national convention in 1912, and was chief counsel for the managers in the impeachment trial of Gov. William Sulzer, in 1913. In the same year he was made LL.D. by McGill University, and he received the same degree from the University of Toronto in 1915, and from the College of William and Mary in



1921. In 1906-07 Justice Parker was President of the American Bar Association and in 1914 he presided over the New York State Bar Association.

**PARKS, NATIONAL.** In 1926 a larger number of visitors than in any preceding year were admitted to the parks maintained by the United States Government, and established under acts of Congress for the preservation of their scenic or other unique features and set apart for the use of tourists and visitors. The National Park Service recorded 1,930,865 visitors, in 1926, as against 1,706,512 in 1925 and 1,422,353 in 1924. The service also handled the largest volume of automobile travel, the number of cars entering the parks in 1926 being 406,248, as against 368,212 in 1925 and 315,916 in 1924. Tourist travel to the national monuments, administered in most cases through the National Park Service, also reached its highest peak in 1926 with 384,040 visitors, as against 294,050 in 1925 and 248,555 in 1924. The following table from the report of the director of the National Park Service shows the distribution of these visitors among the various parks and monuments under its direction.

<i>Name of park</i>	<i>Number of visitors</i>
Hot Springs .....	* 260,000
Yellowstone .....	187,807
Sequoia .....	89,404
Yosemite .....	274,209
General Grant .....	50,597
Mount Rainier .....	161,796
Crater Lake .....	86,019
Platt .....	* 124,284
Wind Cave .....	85,466
Sullys Hill .....	19,921
Mesa Verde .....	11,356
Glacier .....	37,325
Rocky Mountain .....	* 225,027
Hawaii .....	* 35,000
Lassen Volcanic .....	18,789
Mount McKinley .....	538
Grand Canyon .....	140,252
Lafayette .....	101,256
Zion .....	21,964
Total .....	1,930,865
* Estimated.	

<i>Name of monument <sup>b</sup></i>	<i>Number of visitors</i>
Aztec Ruin (New Mexico) .....	5,646
Capulin Mountain (New Mexico) .....	14,965
Carlsbad Cave (New Mexico) .....	10,904
Casa Grande (Arizona) .....	16,542
Chaco Canyon (New Mexico) .....	2,500
Colorado (Colorado) .....	* 9,000
Craters of the Moon (Idaho) .....	4,620
Devil's Tower (Wyoming) .....	16,640
El Morro (New Mexico) .....	5,794
Gran Quivira (New Mexico) .....	1,577
Hovenweep (Utah-Colorado) .....	* 250
Katmai (Alaska) .....	.....
Montezuma Castle (Arizona) .....	12,385
Muir Wood (California) .....	97,426
Natural Bridges (Utah) .....	68
Navajo (Arizona) .....	250
Papago Saguaro (Arizona) .....	* 53,000
Petrified Forest (Arizona) .....	53,345
Pinnacles (California) .....	10,167
Pipe Spring (Arizona) .....	16,728
Rainbow Bridge (Utah) .....	300
Scott's Bluff (Nebraska) .....	* 27,000
Sitka (Alaska) .....	2,500
Tumacacori (Arizona) .....	13,683
Verendrye (North Dakota) .....	* 8,000
Wupatki (Arizona) .....	* 800
Yucca House (Colorado) .....	* 150
Total .....	384,040

\* Estimated.

<sup>b</sup> No records for other national monuments.

Adjustments of the boundaries of several of the national parks made increased areas available for the recreation and education of visitors. These included the Sequoia Park, to which Mount Whitney with other land was added, and Mount Rainier Park. Four new parks, three of which were in the East, were authorized by Congress, 1920, being the most successful year since 1919, from the standpoint of legislation. The total maximum area involved in the Shenandoah National Park project, the first of these new parks, was 521,000 acres, that in the Great Smoky Mountains Park 704,000 acres and that in the Mammoth Cave Park 70,618 acres. However, it was provided that when a minimum acreage of 250,000 in the Shenandoah area, 150,000 in the Great Smoky Mountains, and 20,000 (including all the caves) in the Mammoth Cave region, should have been accepted by the Secretary of the Interior, the National Park Service might take over the administration and protection of these areas. A total of \$1,200,000 was subscribed for the purchase of lands in the Shenandoah area, and \$1,066,693 for similar purchases in the Great Smoky Mountains region. No donations of money toward the acquisition of the Mammoth Cave Park were tendered.

The total area of the 19 national parks was 7,493,243 acres, of which 81,819 were still private land, although the amount of private land had been reduced during the year from 99,826 acres by legislation affecting the boundary of the Rocky Mountain National Park.

During the year the committee on outdoor education organized by the American Association of Museums was making studies for appropriate educational museums in Grand Canyon National Park and Palisades Interstate Park. Of the various educational facilities offered, the nature guide service was undoubtedly the most popular with visitors. It was available in 1926 in Yosemite, Yellowstone, Glacier, Mount Rainier, Sequoia, Grand Canyon, Zion, and Crater Lake National Parks and at the Casa Grande and Petrified Forest National Monuments. A direct outgrowth of this work was the establishment in 1925 of the Yosemite field school of natural history. In 1926 four or five times as many students sought enrollment as in 1925, but it was deemed advisable to limit the number to 20. The new museum building, completed early in the spring, provided additional facilities for the use of the school. A number of summer field schools were conducted in the reservations by educational institutions, including the Princeton summer school of geology and natural resources, Northwestern University, and the University of California. Another interesting phase of educational work in the parks was the staging of historical and allegorical pageants.

At the Mesa Verde National Park considerable archaeological work was carried on, and brought to light some very interesting relics, many of which were placed in the park museum. General restoration and repair work was also done at the historic and prehistoric ruins in the Chaco Canyon, Aztec Ruin, Casa Grande, Gran Quivira, Pipe Spring, and Tumacacori National Monuments. In addition to the work of the Park Service, exploration was carried on by the National Geographic Society in the Chaco Canyon, by the United States National Museum in Grand Canyon National Park, and by the Carnegie Institution in the same park.



The ten parks which were open to visitors during the winter experienced the heaviest winter travel in their history. Without exception, the national parks reported the wild animals in unusually good condition; this was due to the mild winter weather that prevailed throughout the West. Several species that were threatened with extinction, notably the antelope and buffalo herds of the Yellowstone, showed a gratifying increase. Mountain sheep were much more in evidence at the Grand Canyon than in preceding years. Fish-planting operations were continued, in coöperation with both the Bureau of Fisheries and State hatcheries. Excellent progress was made on the road programme during the year, under the coöperative agreement entered into in 1925 with the Bureau of Public Roads of the Department of Agriculture, whereby that bureau was supervising the construction of major road projects in the parks. During the summer, all the resources of Glacier Park were used for nearly two months in fighting and controlling fires started by lightning and the explosion of a gasoline tank on a truck, 3583 men being engaged in fighting the flames; the total cost to the Government was \$203,073.76.

The total appropriations for the National Park Service for the fiscal year 1926 amounted to \$3,258,409, and the expenditures to \$3,219,406. In spite of a reduction of automobile fees in the national parks, revenues derived from the operation of the parks during the year amounted to \$818,530.72, an increase of 22 per cent over the previous, 1925, high mark.

**PARRY, SIR JOHN FRANKLIN.** British naval officer and hydrographer, died April 22, at Harrogate Spa, England. He was born Aug. 15, 1863, and entered the British Navy in 1877, becoming a sub-lieutenant in 1883 and lieutenant two years later. In 1885 he served in Egypt in the Suakin campaign, and for his services he was decorated with the Egyptian Medal and Star. In 1890 he became a commander, rising to the rank of captain in 1905. From 1900 to 1903 he was chief assistant to the hydrographer of the navy, and from 1910 to 1914 he was assistant hydrographer. In 1916 he was given the rank of rear admiral, and from 1914 to 1919 he was hydrographer-in-chief. He was in command of surveys in many parts of the world and served on many technical committees in connection with hydrographic researches and navigation.

**PASHITCH, pi'shitch, NICOLA P.** Premier of Serbia and Yugo-Slavia, died at Belgrade, Yugo-Slavia, December 10. He was born in 1845 in Saitchar (Zayechar), Serbia, a village near the Bulgarian frontier, and spent so much of his youth in Bulgaria that by many he was deemed to be of Bulgarian birth. He was educated at Belgrade, and gained a scholarship in engineering, enabling him to study at the Polytechnicum, Zurich, Switzerland, where he became the associate of Russian Nihilists and the particular friend of the celebrated Anarchist, Bakunin. Returning to Serbia in 1873, he engaged in service as an engineer and fought in the war with Turkey, 1876-8. After the conclusion of the war he determined to establish a revolutionary Socialist state, and set to work at once to form the Radical party. In 1878 he was elected a deputy, and it was during the troubled years which followed that King Milan twice refused to acknowledge him as speaker

when so elected by the house. M. Pashitch was accused of plotting against King Milan and the death sentence was passed upon him; but he escaped into Austria. When all the other leaders received amnesty, Pashitch alone was excepted, and he lived in exile until 1889, when he returned in triumph to Serbia, King Milan having abdicated in favor of King Alexander. He became premier in 1891, and in 1893-4 he went to Russia as Serbian ambassador. While in Russia he gained the Czar's protection for his country and for his own person, but on his return to Serbia he was imprisoned for nine months, charged with *lèse majesté*. He was again arrested in 1899 on the charge of conspiring against the life and person of the King. The intervention of Russia saved his life, his sentence being commuted to five years' imprisonment and later changed to banishment. After the assassination of King Alexander in 1903, M. Pashitch helped to establish the Karageorgevitch dynasty on the throne. Serving first as minister of foreign affairs in 1904, he became prime minister in 1906. As a result of the Balkan and World Wars the Kingdom became larger than Austria, and so M. Pashitch achieved one of his ambitions for his country, for he was ever an inveterate enemy of the neighboring state. M. Pashitch was familiarly known as the "Old Fox of the Balkans," and it was mainly due to his irrepressible activity that the Balkan Alliance was formed, to the consternation and undoing of Turkey.

He was premier at the time of the Serajevo assassination and after the War he was accused of foreknowledge of the crime, but to this he gave a formal denial shortly before his death. It was M. Pashitch who responded to the Austrian ultimatum and who represented Serbia at the Paris Peace Conference. Since 1906 he had been, with few intervals, Prime Minister of Serbia (since the War, of Yugo-Slavia), and throughout the troubled period following the War he led his country strongly and steadily along the path of his own choosing. He completely defeated the Croatian separatist republican movement, but took its leader, Stephen Raditch, into his own cabinet. This diplomatic move greatly strengthened both the government and the throne. Deep consternation was felt everywhere in the Balkans when the news of his death was spread, as the Serbs were looking to him for leadership in connection with the serious situation caused by the Italian-Albanian treaty. Premier Uzunovitch had failed to form a cabinet and M. Pashitch had, the day before his death, been called to the palace by King Alexander. He died just as he was about to take the reins of government into his hands to lead his country once more out of a seeming impasse.

**PASSAIC, N. J., TEXTILE STRIKE AT. See STRIKES AND LOCKOUTS.**

**PATENTS.** See UNITED STATES.

**PAVEMENTS.** See ROADS AND PAVEMENTS.

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.** This museum is the anthropological section of the Harvard University Museum; it was founded by George Peabody in 1866. In addition to maintaining collections, it has laboratories for research in the various branches of archaeology, and has at its disposal the income from various funds, permitting special research in the field and the care and increase of the collections.

In 1926 there were, as usual, numerous field activities. The Southwestern expedition, exploring Swart's Ranch Pueblo in the Mimbres Valley of southwestern New Mexico, was continued by Mr. and Mrs. C. B. Cosgrove under the general supervision of Dr. A. V. Kidder. During this season's work, 33 rooms were cleared, making 116 rooms in all that had been explored. The excavations were carried beneath the floors of the rooms, sometimes to the depth of nine feet, before evidences of disturbance of the soil by human agency disappeared. Seven of the rooms were of early construction and were below the level of the main pueblo, one being of the pit-house type with an inclined passage extending from the room to the surface of the ground. A small cave  $8\frac{1}{2}$  miles from this pueblo was also excavated. It was situated in a side canyon tributary to the Mimbres River. Potsherds, fragments of basketry, and fabrics of various kinds were recovered which show conclusively that they belong to the Mimbres culture.

Dr. H. J. Spinden, in connection with the Spinden-Mason archaeological expedition, carried on work in Middle America for a portion of the year. From Belize the expedition skirted the coast northward along the Yucatán peninsula, making excursions inland by means of rivers. Ruins of about 50 buildings were discovered, some of which were of great interest. From Yucatán the party went eastward and southward along the northern coast of Honduras, visiting the Bay Islands and examining the ancient cemetery under the high limestone cliffs. When the expedition reached the Plantain River on the mainland, it was ascended and the sites along its shores were examined. A collection of pottery, grinding stones, and other implements was obtained from these sites and was placed on exhibition in the museum at the end of the year, as was also a collection of flutes, drums, carrying bags, and other objects from the Puya Indians who accompanied the expedition up the river.

W. B. Cline continued his investigation and survey of the ancient earthworks in the Sudbury Valley of Massachusetts, a considerable number of which are new to local archaeologists. Dr. Charles Peabody explored a neolithic workshop or surface site on a sandy plateau between Fitz-James and Breuil-le-sac, some 60 kilometers north of Paris, and obtained for the museum a good collection of flint implements and workshop material. Professors Tozzer and Hooton carried on studies of race mixture, with the financial assistance of the bureau of international research. Martin Luther spent a portion of the year collecting anthropometric and sociological data on the Finnish colonies in Massachusetts, and in June went to Finland and Lapland to continue his studies there. Carleton Coon, another student, carried on archaeological and anthropological reconnoissances in Morocco.

**PEACE AND PEACE MOVEMENTS.** In 1926 the usual number of peace organizations and peace movements were active; the following paragraphs summarize some of their features.

**AMERICAN PEACE SOCIETY.** The 98th annual meeting of the board of directors was held in connection with an informal dinner, at the Cosmos Club, Washington, May 29, Representative Theodore E. Burton presiding. It was proposed that two things should be done by 1928,

the date of the 100th anniversary of the founding of the Society: 1, a complete index of the *Advocate of Peace* should be compiled; 2, a complete history of the society should be written and published.

**THE AMERICAN BRANCH OF THE WORLD ALLIANCE FOR INTERNATIONAL FRIENDSHIP THROUGH THE CHURCHES.** This organization has been active through 20 national branches, financed in part by Mr. Carnegie's money and in part by such additional funds as it is able to raise. This American Branch holds an annual meeting every Armistice Day. In the spring of 1926 it held a speakers' conference. It holds forums all over the United States, and is active in sending out literature and in spreading as widely as possible the idea of the peaceful settlement of international disputes. Headquarters, 70 Fifth Avenue, New York.

**COMMISSION ON INTERNATIONAL JUSTICE AND GOOD WILL.** This is a component part of the Federal Council of Churches. It adopted the following statement regarding military training in schools and colleges:

1. The commission seeks the reign of universal peace, yet it does not ignore present-day conditions. It believes that disarmament can come for any nation only by international agreements. No nation can disarm alone.
2. The urgent need of the times is definite and comprehensive agreements between the nations, whereby disputes of every kind shall be settled by suitable tribunals, under processes of law, reason and conciliation, and not by armed violence.
3. The commission believes that the people and government of the United States should concentrate thought and effort on the development of the spirit and of the institutions essential to the achievement of world justice, mutual confidence and goodwill, common security and world peace.
4. The commission recognizes the necessity for a reasonable national defense and for maintaining internal order and international justice.
5. The commission urges a thorough study of the problems involved in utilizing civilian schools and colleges for purposes of military training.

**THE COMMITTEE ON WORLD FRIENDSHIP AMONG YOUNG PEOPLE.** This organization, of which Walter W. Van Kirk was secretary, is also affiliated with the Federal Council of Churches. Its purposes are expressed in the following creed:

#### A PEACE CREED FOR YOUTH

We believe: That the supreme task of the rising generation is the abolition of war.

We believe: That the Church of Jesus Christ is the only institution capable of generating the will-to-peace. If war is to be outlawed it will be because the Christian Church has summoned the nations to sheathe their swords and live at peace with one another.

We believe: That such international organizations as the World Court and the League of Nations, in order to function effectively for the peaceful settlement of international disputes, must be paralleled by the development of the international mind and heart, particularly among the youth of the world. This is the task of the Church.

We believe: That the Christian young people of America have a very special responsibility in keeping the Church firmly on the side of peace and in fostering among their own associates and throughout the nation generally the spirit of international friendliness.

**THE SIXTH INTERNATIONAL PEACE CONGRESS.** The congress was held at Dierville, France, beginning August 17. It was attended particularly by pacifists of the younger generation under the leadership of Max Sangnier. The congress was in no sense of the same series as the other congresses held under the auspices of the International Peace Bureau, with headquarters in Geneva.

**THE NATIONAL COUNCIL FOR PREVENTION OF**

**WAR.** This body, of which Frederick J. Libby was secretary, continued to act as a clearing house for information with the purpose of increasing coördination among 38 national organizations working for peace. Eighty-two peace societies in the United States were listed by the council, under four heads: 1, those organized primarily to work for peace; 2, those having special committees for peace work; 3, those engaged in activities which increase international good will and promote world peace; 4, those lending support to the peace movement through affiliation with the National Council, active participation in campaigns, etc.

**THE CHURCH PEACE UNION.** This organization was founded by Andrew Carnegie in 1914. In 1926 the Rev. William P. Merrill was chairman; Henry A. Atkinson was secretary, and the Rev. Frederick Lynch was educational secretary, in charge of its educational campaign, which is world-wide.

See **NOBEL PRIZES**; also **WOODROW WILSON AWARD**.

**PEACH MOTH, ORIENTAL.** See **ENTOMOLOGY, ECONOMIC**.

**PEACH TREE BORER.** See **ENTOMOLOGY, ECONOMIC**.

**PELERIN, FELIX.** See **FABRICIAN, BROTHER**.

**PELLAGRA.** Within a few years our views of the nature of this mysterious malady have undergone much modification, as is shown by an article of Dr. Sutton of Hollywood, Calif., in the *American Journal of the Medical Sciences* for September. Although it was only a few years since the disease had been known on the Pacific slope, the author reported 54 personal cases. The old belief that the incidence is almost peculiar to poor and half-fed people has long been shattered. It was upon this supposition that treatment once involved the giving of nourishing animal food, yet pellagra may be seen to develop in high-protein feeders. Even to-day a high-protein diet is still usually prescribed, although it is only necessary to make sure that the ration should contain the ordinary protein requirement. Of the intimate nature of pellagra it is only possible to say that some unknown factor makes the patients abnormally sensitive to light. It has been found best to keep the pellagrin outside of hospital walls and give him ambulatory treatment at the office or dispensary. There should be no sudden or radical change of any kind in the diet, gradually introducing special articles, such as whole oranges in abundance, fried scraped beef, etc. The outlook is gloomy, for of the 54 patients only 15 were much benefited by treatment. The mortality is high, but not necessarily from the disease itself—of 11 deaths only five were from pellagra. See **FOOD AND NUTRITION**.

**PELL'S NECK, BATTLE OF.** See **CELEBRATIONS**.

**PENANG, pē-nāng'.** One of the Straits Settlements (q.v.).

**PENNELL, JOSEPH.** American artist and author, died at Brooklyn, N. Y., April 23. This important American etcher and lithographer, also well known as a writer, was born at Philadelphia, July 4, 1860, of Quaker parents. He was a pupil of the Pennsylvania Academy of Fine Arts and the Pennsylvania School of Industrial Art, and studied etching with Stephen S. Ferris. In 1884 he went to Europe and thereafter traveled a great deal. He spent much

time in London. He was a friend and later a biographer of Whistler, and the evidence of Whistler's influence is to be found in Pennell's work. Pennell, however, was distinctly original, and was probably the best known of American graphic artists. His art was simple and effective. He was noted for his grasp of a subject, evidenced in his power of selection, as may be seen in his later etchings of New York City and the Panama Canal. His subjects are chiefly architectural or scenic; figures are not of major importance. Drawings, etchings, and lithographs by him may be found in virtually all the great European collections of graphic art, as well as in important American museums, such as the Metropolitan Museum of Art, New York, and the Brooklyn Museum, and in the Library of Congress. He was a member of the National Academy (1909), of the National Institute of Arts and Letters, the National Academy of Design, as well as many important European societies embracing representatives of the graphic arts. He received gold medals or grand prizes at Paris (1900) and several other world expositions. No small share of his general reputation is due to his writings, which include the following: *A Canterbury Pilgrimage*, 1885; *An Italian Pilgrimage*, 1886; *Pen Drawings and Pen Draughtsmen*, 1889; *Modern Illustration*, 1895; *Lithography and Lithographers*, 1900; *A Life of James McNeill Whistler*, 1907; *Pictures of the Panama Canal*, 1912; *Etchers and Etching*, 1919; *Adventures of an Illustrator*, 1925.

**PENNINGTON, EDMUND.** American railway president, died May 2. He was born at La Salle, Ill., Sept. 16, 1848, and entered the railway service in 1869 as a warehouseman. He rose to the post of assistant superintendent of the Chicago, Milwaukee and St. Paul Railway. He was superintendent of the Minneapolis and Pacific Railroad till June, 1888, from 1888-89 general superintendent, and general manager from 1899 to 1905. He was elected vice-president July 31, 1905, and continued as general manager and president from 1909 to 1922, when he became chairman of the Minneapolis, St. Paul and Sault Ste. Marie Railroad. He was also a director of the First National Bank of Minneapolis.

**PENNSYLVANIA.** **POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 8,720,017. The estimated population on July 1, 1926, was 9,614,000. The capital is Harrisburg.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu	Value
Hay, tame	1926	2,916,000	3,804,000 *	\$70,374,000
	1925	8,038,000	4,225,000 *	71,825,000
Corn	1926	1,394,000	57,154,000	44,580,000
	1925	1,408,000	71,808,000	57,446,000
Potatoes	1926	198,000	22,176,000	37,699,000
	1925	202,000	24,846,000	48,201,000
Wheat, winter	1926	1,170,000	25,400,000	80,156,000
	1925	1,125,000	22,500,000	33,075,000
Oats	1926	1,111,000	85,552,000	17,420,000
	1925	1,157,000	40,495,000	20,652,000
Tobacco	1926	38,000	43,560,000	4,574,000
	1925	41,000	57,400,000	8,610,000
Buckwheat	1926	190,000	3,610,000	3,213,000
	1925	194,000	4,462,000	4,060,000
Rye	1926	93,000	1,488,000	1,443,000
	1925	113,000	1,921,000	2,017,000
Apples	1926		17,000,000	12,960,000
	1925		7,800,000	10,658,000

\* tons, † pounds.

**MINERAL PRODUCTION.** Pennsylvania, first in rank of the States in order of the value of the annual mineral product, is preëminently a producer of coal. There were produced 55,194,000 gross tons of anthracite in 1925, as against 87,926,862 in 1924; in value, \$327,665,000 in 1925 and in 1924, \$477,230,852. Of bituminous coal the State produced 139,862,000 short tons in 1925, and 130,633,773 short tons in 1924. The bituminous product had a value, for 1924, of \$295,164,000, and for 1923 of \$472,217,000. See COAL. The State was the leading producer of pig iron, its shipments attaining the quantity of 12,537,809 long tons in 1925 and of 10,962,288 long tons in 1924, and a value of \$258,140,674 in 1925 and in 1924, \$237,052,035. The coke (q.v.) produced amounted to 16,927,437 short tons in 1924, and 25,624,286 short tons in 1923; in value, \$72,568,096 in 1924 and in 1923, \$138,444,191. Ferro-alloys attained a total production of 260,623 long tons in 1924, and 317,470 long tons in 1923; and a value of \$24,618,060 for 1924 and for 1923, \$28,515,265. Outside the coal and iron industries, cement held the leading place. Cement production attained 41,876,000 barrels, the greatest amount of any State in 1925, as against 40,849,602 barrels in 1924. Cement shipments had a value of \$70,470,000 in 1925 and in 1924 of \$69,693,517. Clay products had a value of \$52,167,366 in 1924, and in 1923 of \$58,529,481. The natural gas production diminished slightly, to 105,863,000 M cubic feet in 1924 from 112,562,000 M cubic feet in 1923; in value it was \$45,546,000 in 1924 and in 1923 \$45,873,000. Natural gas gasoline was produced to the quantity of 19,230,000 gallons in 1925 and 19,254,000 gallons in 1924, with a value of \$2,240,000 (estimated) in 1925 and \$2,266,000 in 1924. Petroleum production rose to 7,824,000 barrels in 1925 from 7,486,000 barrels in 1924; its value was \$28,600,000 (estimated) in 1925 and \$27,025,000 in 1924. The State produced important and large totals of stone, sand and gravel, lime, slate, and iron ore. The total value of its mineral product was, in 1924, \$1,001,630,879; in 1923, \$1,225,036,404.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending May 31, 1925, were \$74,444,104. Their per capita rate was \$8.04, as against \$8.07 in 1924 and \$3.32 in 1917. Their total included \$21,181,345 for education, apportioned among the minor State divisions. Payments amounting to \$2,657,380 for interest on debt and \$34,522,772 for permanent improvements, added to payments for the maintenance and operation of departments, made the total of State payments \$111,624,256. For highways was expended the sum of \$45,645,113, of which \$14,003,995 was for maintenance and \$31,641,118 for construction.

Revenue receipts of the State were \$111,183,391, or \$12.01 per capita. They exceeded by \$34,081,907 the total payments except those for permanent improvements, and were \$440,865 less than the total with these included. Special property and other special taxes formed 39.9 per cent of the revenue in 1925, as against 45.3 per cent in 1924 and 52.8 per cent in 1917. Their per capita rate was \$4.79 in 1925, \$5.20 in 1924 and \$2.13 in 1917. Earnings of the departments and compensation for officials' services furnished 7.6 per cent of the 1925 revenue;

business and non-business licenses, 42.3 per cent. License receipts increased in 1925 on account of a higher percentage of the gasoline tax credited to the State, and through the operation of the recently enacted tax on corporation profits. License receipts included proceeds of taxes on incorporated companies, on gasoline sales and on motor vehicles.

The net indebtedness of the State on May 31, 1925, was \$64,964,110, or \$7.02 per capita, as against \$5.26 in 1924 and 6 cents in 1917. An issue of \$20,000,000 of highway bonds occasioned the 1925 increase. The assessed valuation of property for State tax was not made, as no general property State tax was levied in 1925.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 11,338. Switching and terminal companies operated 693 miles of tracks. There were constructed in 1926 some 6 miles of new second track, 5 miles of third track and 3 miles of fourth or other track; a total of some 15 miles of track. The Bloomsburg and Sullivan Railroad abandoned 9 miles of line between Benton and Jamison City; the Erie abandoned 4 short stretches with a combined length of some 10 miles; the Eagles Mere Railroad abandoned 10 miles between Sonestown and Eagles Mere; the Sheffield and Tionesta, 7 miles near Tionesta.

**EDUCATION.** Various forms of coöperative activity among members of the teaching profession and others interested in education marked the year 1926. There were 50 of the 52 colleges in the State reported as coöperating with the state educational association, and important work was done by the rural school conference in drawing up a programme. The public school population as of August, 1925, was approximately 1,926,300 and the total enrollment 1,837,131, of which the elementary school enrollment was 1,546,256 and the high school enrollment, including junior high schools, 290,875. The expenditures for public school education, exclusive of expenditures for normal schools, county superintendents, and administration of the State Office of Public Instruction, during the year 1925-26 totaled \$185,404,735. The average salary of teachers was approximately \$1450.

**CHARITIES AND CORRECTIONS.** The Department of Welfare, created in 1921, took over the powers and duties of the old Board of Public Charities, the Committee on Lunacy and the Prison Labor Commission, and new powers and duties have been added. It is headed by a Secretary of Welfare, with a State Welfare Commission as an advisory body. Its powers are largely advisory, and it exercises budgetary control over 26 State-owned institutions. Under its supervision are all penal reformatories and correctional institutions, hospitals for the insane, institutions for feeble-minded and epileptic persons, for juvenile delinquents and for the indigent, and all charitable institutions which receive financial assistance from the commonwealth; also all children's institutions and agencies, all jails, almshouses or hospitals maintained by counties or districts. It also administers the Mothers' Assistance Fund. The legislature of 1925 added a State Council for the Blind to this organization, and charged it with the duty of licensing organizations which solicit money for charitable purposes.

The State penal institutions are the Eastern State Penitentiary, Philadelphia; the Western

State Penitentiary, Pittsburgh; the Pennsylvania Industrial Reformatory, Huntington; the State Industrial House for Women, Muncy; the Pennsylvania Training School, Morgantown. The State owns and conducts 8 hospitals for the mentally afflicted, these being the state hospitals at Allentown, Danville, Waymart, Harrisburg, Norristown, Torrance, Warren and Wernersville. At the following places are state hospitals for medical and surgical service: Ashland, Blossburg, Coaldale, Connellsville, Hazleton, Shenandoah, Nanticoke, Phillipsburg, Scranton, and Shamokin. Institutions for the feeble minded and for epileptics are Pennhurst State School; Polk State School, and Laurelton State School. The Pennsylvania State Soldiers' and Sailors' Home at Erie is for afflicted soldiers and sailors. In State-owned, partly State-owned and county-owned hospitals for mental defects there were in 1926 about 22,000 insane, while the feeble minded in the State institutions and one semi-State school numbered some 4300. The penal population approximated 4000. Forty-five children's homes received State aid, and the number of destitute children was about 35,000. Other children, some 12,000 in number, were beneficiaries under the mothers' assistance system of the State.

**LEGISLATION.** At the special session of the State legislature, called by Governor Pinchot on Dec. 13, 1925, and held early in 1926, State Senator Harris introduced bills for the reform of the State election law. A joint resolution was passed by the General Assembly favoring revision, but it was vetoed on March 7, by Governor Pinchot, who made the comment that it evaded the proper steps for clean elections legislation. This session, specially called by Governor Pinchot to enact a programme of coal, banking, building, election, power, Delaware River and Prohibition legislation offered by the Governor, convened January 13 and ended February 18. It failed to enact a number of important bills in this programme, whereupon the Governor charged, in a statement made February 19, that the bills had been killed by the influence of the political organization—in his words, of "the gang."

The State Senate passed February 2, and sent to the lower house a bill to exact tolls on the Philadelphia-Camden bridge, in accordance with the wishes of New Jersey. The measure was subsequently passed by the lower house. There were enacted also measures for the mandatory opening of ballot boxes to determine election frauds; for a tax on gasoline; and for regulation of alcohol. The session ended without having enacted the Governor's coal-industry and giant-power legislation programme.

**POLITICAL AND OTHER EVENTS.** In the general election of November 2, John S. Fisher, the Republican candidate, was elected Governor, defeating E. C. Bonniwell, Democrat, for the four-year term beginning January, 1927. For the Republican nomination for United States Senator there occurred an unusually intense campaign, with W. S. Vare, Governor Gifford Pinchot and Senator George W. Pepper as the chief contenders. All three incurred primary campaign expenses running into hundreds of thousands of dollars. Vare obtained the nomination, and on November 2 was elected, leading the Democratic candidate, W. B. Wilson, by about 180,000 votes. Other State officers elected in Novem-

ber, to take office in January, 1927, were Lieutenant Governor, Arthur H. James; Secretary of Internal Affairs, James F. Woodward. Thirty-four Republicans and two Democrats were elected to the United States House of Representatives.

The primary campaign contributions in the Republican Senate contest later gave occasion for investigation. The United Mine Workers of America adopted resolutions April 7, favoring Pinchot. The Governor issued a statement April 5 to the effect that State employees opposing his nomination were disloyal and should resign from their posts. The United States Senate Campaign Fund Committee opened an investigation in Pennsylvania early in June, and soon brought to light contributions totaling about \$1,500,000 for the Senatorial aspirants. The revealed total was greatly increased when, June 18, accounts filed with the State Bureau of Elections showed about \$2,500,000 spent in the senatorial contest and some \$250,000 for the Governorship nomination.

The strike of the anthracite miners, after a duration of some 5½ months, involving wage losses computed at \$150,000,000 and a stoppage of nearly 40,000,000 tons in coal production, came to an end February 17. The settlement provided that the striking miners, some 158,000 in all, should return to work immediately, and should abide for five years by the scale of wages to be set by the arbitration of a conciliation board. See **COAL; STRIKES AND LOCK-OUTS.**

The Philadelphia Sesqui-Centennial Exposition, commemorating the 150th anniversary of the Nation's independence, was held during the year, and drew visitors from all parts of the country. Owing to a combination of causes, however, it involved the subscribers and the city in financial loss. The total cost of the exposition was estimated at some \$20,000,000, of which the city of Philadelphia was liable for \$17,000,000 and nearly \$3,000,000 was met by private contributions, made in the form of subscriptions to participating certificates. There remained for the city to pay bills to a total of about \$5,000,000 at the close of the exposition, and the issue of bonds for this purpose was authorized by popular vote at the election of November 2. See **EXPOSITIONS.**

Plans for the construction of the long projected Conowingo hydro-electric station were made public June 30. They involved building a dam 4800 feet long on the Susquehanna River some 4 miles above tidewater; creation of an 8100-acre reservoir; installation at the outset of seven and ultimately of eleven 36,000-kw. generators; an annual production of 1,360,000,000 kwh. of energy; and a 220,000-volt transmission line over the intervening 75 miles to Philadelphia. The project was to be carried out for the Philadelphia Electric Power Company.

**OFFICERS.** Governor, Gifford Pinchot; Lieutenant-Governor, David J. Davis; Secretary of State, Elvin H. Conarroe; Treasurer, Samuel S. Lewis; Auditor-General, Edward Martin; Attorney-General, George W. Woodruff; Superintendent of Public Instruction, Francis B. Haas.

**JUDICIARY.** Supreme Court: Chief Justice, Robert von Moschzisker; Judges: Robert S. Frazer, Emory A. Walling, Alexander Simpson, Jr., John W. Kephart, Sylvester B. Sadler, William I. Schaffer.

**PENNSYLVANIA, UNIVERSITY OF.** A non-sectarian institution of higher education, at Philadelphia, Pa., primarily for men, but with certain courses open to women; founded in 1740. It is composed of the College of Arts and Science; the Towne Scientific School, which has courses in chemistry and engineering; the Moore School of Electrical Engineering; the Wharton School of Finance and Commerce; the school of education; the school of fine arts; the graduate school; and the professional schools of medicine, graduate medicine, law, dentistry, veterinary medicine, and hygiene and public health. The 1926 fall enrollment was 16,087, including the evening and extension schools. For the 1926 summer session 2510 were registered. The faculty numbered 1265. The productive funds amounted to \$13,696,174, and the income for the year to \$704,426. The library contained 615,099 volumes. During the year, new additions to the university's buildings included an addition to Logan Hall, of the Wharton School; two new dormitories; a new wing of the museum; and completion of the "double-decking" of the stadium. President and provost, Josiah H. Penniman, Ph.D., Litt.D., LL.D.

**PENNSYLVANIA ACADEMY.** See ART EXHIBITIONS.

**PENNSYLVANIA STATE COLLEGE.** A non-sectarian, coeducational institution of higher education, at State College, Pa.; founded in 1855. The 1926 fall enrollment totaled 3666, distributed as follows: Agriculture, 595; chemistry, 323; education, 487; engineering, 1173; liberal arts, 97; mines and metallurgy, 168; graduate school, 93; specials, etc., 30. There were 2495 students registered in the 1926 summer session. The faculty numbered 512, including the home economics extension staff. The productive funds of the college amounted to \$517,000, and the income for the year to \$2,986,817.06. The library contained 95,906 volumes. On Sept. 24, 1926, the board of trustees elected Ralph D. Hetzel, LL.B., LL.D., who was for nine years president of the University of New Hampshire, to fill the vacancy left by the resignation of President John Martin Thomas in 1924. Dr. Hetzel's inauguration was set for January, 1927.

**PENROSEITE.** See CHEMISTRY, under *Mineralogical Chemistry*.

**PENSIONS.** See OLD-AGE PENSIONS; UNITED STATES.

**PERAK**, pà'rik'. The most northern of the Federated Malay States (q.v.)

**PERKIN MEDAL.** See CHEMISTRY, INDUSTRIAL, under *Medals*.

**PERSIA.** A monarchy of southwestern Asia, extending north from the Persian Gulf and the Gulf of Oman to the Caspian Sea. Capital, Téhéran.

**AREA AND POPULATION.** The area has been variously estimated at from 628,000 to 635,135 square miles; the population at from 8,000,000 to 10,000,000, about 3,000,000 of whom are nomads, among whom Turks, Kurds, Leks, and Arabs predominate. The number of Europeans as been placed at 1200. The population of Téhéran has been given at 350,000, but this figure is merely conjectural. Other important cities with their estimated populations are: Tabriz, 180,000; Isfahan, 100,000; Meshed, 85,000; and Resht, 80,000. The great mass of the people are Moslems of the Shiite sect.

**EDUCATION.** In recent years education has

made very rapid strides in Persia, where a new order of things is gradually being worked out. In 1924 there were 252 government schools, 229 national schools, 108 private schools, 87 foreign schools, 240 religious schools, and 1026 Maktab schools. The above schools provide education to 73,534 boys, 17,485 girls, and 4979 students of religion. The foreign schools are chiefly run by missions supported by various denominations throughout the world.

**PRODUCTION.** A large part of the country is desert, but the soil is comparatively fertile where it can be worked. The agricultural products include wheat, barley, rice, fruits, gums, drugs, wool, cotton, and tobacco. The production of opium was 690,833 pounds in 1924. The making of silks and carpets continues to be an important industry. The mineral resources, which are rich but undeveloped, include coal, cobalt, copper, iron, lead, marble, mercury, manganese, nickel, salt, turquoise, and petroleum. Indications are that the deposits of petroleum are very rich.

**COMMERCE.** The foreign trade of Persia for the fiscal year ended Mar. 31, 1925, amounted to \$177,100,000, or \$30,835,682 more than for the preceding year. Although both imports and exports increased in dollar values, the expansion in exports was so pronounced as to more than treble the favorable trade balance of the previous year. Where for the fiscal year 1923-24 the excess of exports over imports created a favorable balance of \$7,414,034, in the fiscal year 1924-25 the exports valued at \$100,040,000 so far exceeded imports, valued at \$77,060,000, as to produce a favorable balance of \$22,980,000. It should be noted, however, that this result was entirely attributable to oil exports, valued at \$51,496,000, and that if this amount were excluded from the calculations the favorable balance would be changed to an unfavorable one of \$29,516,000. The accompanying table shows the exports for 1924 and 1925. The import figures were not available in detail, although it was expected that increases would be shown in the cases of sugar, cloth of all kinds, rubber shoes, mineral oils, agricultural machinery, and automobiles.

PRINCIPAL PERSIAN EXPORTS FOR THE FISCAL YEAR ENDED MARCH 31

Article	1924	1925
Fruits .....	\$3,894,800	\$6,878,000
Opium .....	6,021,900	7,949,000
Rice .....	1,290,500	3,913,200
Raw cotton .....	4,399,000	5,295,600
Lambskins .....	1,198,100	956,800
Intestines .....	592,000	1,169,800
Unrefined wool .....	1,323,300	2,315,500
Tissue cotton .....	769,700	717,400
Fox skins .....	566,900	668,400
Tissue silk .....	563,700	319,500
Tobacco .....	521,800	347,800
Leather .....	502,400	998,400
Other skins .....	120,000	254,000
Silk cocoon .....	7,200	116,300
Raw silk .....	320,100	190,900
Wool products .....	10,475,500	10,106,200
Mineral oils .....	38,305,100	51,496,600

\* Figures are only approximate, as complete official statistics are not available.

**FINANCE.** The new budget for the 1926-27 fiscal year (ending Mar. 20, 1927) was passed by the Persian parliament in December, 1926. It balanced at a total of 256,000,000 kranas, estimated receipts exceeding those of the previous year by more than 8,700,000 kranas. Figures pub-

lished during the year by the office of the Administrator General of Persian finances showed that in addition to the balancing of the budget the country's public debt was also reduced, the total on June 22, 1926, amounting to £1,706,000 and 24,625,000 krans. At that date the Persian treasury had to its credit current accounts and trust funds roughly equivalent to the total funded debt of the country.

**COMMUNICATIONS.** The number of vessels entered and cleared at all Persian ports during 1925 was slightly in excess of the arrivals and departures during the previous year, the number entering and departing being 26,025 compared with 25,043 in 1924. Tonnage unloaded from vessels at Caspian Sea ports totaled 81,364, and loaded 107,963, an increase of 18,506 tons unloaded and 34,574 tons loaded over the previous year. As the Caspian Sea traffic is entirely between Soviet Russia and Persia, the increase in tonnage of merchandise handled shows the improvement in commerce between the two countries. The total tonnage unloaded at all Persian Gulf ports amounted to 167,886 and the loaded to 3,614,935, an increase of 5886 tons unloaded and 916,806 tons loaded over 1924. Practically the entire increase in tonnage loaded was at the port of Abadan, the shipping port of the Anglo-Persian Oil Company. No American vessels arrived at or departed from Persian ports in 1925.

**GOVERNMENT.** Executive power is in the Shah, an absolute ruler down to 1906, when he consented to a constitutional form of government with a national assembly or Mejliss. This body held sessions in 1909 and 1915; then for several years it did not meet, and all authority continued to be held by the Shah. It resumed sessions in 1921, was dissolved in the summer of 1923, and resumed again after 1924. The reigning Shah at the beginning of 1926 was Riza Khan Pahlevi, publicly proclaimed Dec. 16, 1925. (See preceding YEAR BOOK.) His cabinet in 1926 was as follows: Prime Minister, Mirza Mohammed Ali Khan Froughy; Foreign Affairs, Mirza Davood Khan Meftah (acting); War, Abdallah Khan Amir Tahmasseb; Home Affairs, Mirza Hossein Khan Dadgar; Finance, Morteza Gholi Khan Bayat; Justice, Mirza Mehdi Khan Fatemi; Public Works, Mirza Ali Akbar Khan Davar; Posts and Telegraphs, Djaffar Gholi Khan Asad.

**HISTORY.** The year passed in comparative quiet in Persia under the rule of the new Shah, Riza Khan. For his accession to power, see preceding YEAR BOOK. In the first month of the year the Persian parliament passed a law providing for the railway development of the state under the leadership and ownership of the government, in order to prevent any possibility of foreign intervention in this regard. American specialists were to be engaged to aid Persian engineers to work out a satisfactory plan of railway development. The new Shah was formally crowned on April 25, with the usual display of pomp and ceremony that attends such functions. In the first part of June the Prime Minister, Mirza Mohammed Ali Khan Froughy, resigned because of his inability to handle internal problems, and was succeeded by Mostofi el Mamelet, who kept the old cabinet almost intact. His ministry was expected to stay in power until the opening of parliament in July.

During the summer there was trouble with the Turcomans on the northeastern frontier. In some

quarters it was charged that the activities of the Turcomans were caused by Soviet propaganda. The government took strenuous steps to crush the movement. While this movement was going on, the sixth Mejliss or parliament opened its meetings at the capital, with the usual ceremonies. In his opening address the Shah stressed the importance of the economic development of the country along the lines of agriculture, mining, railways, and road building. The new prime minister offered his resignation to the Shah, but it was not accepted, and he was finally prevailed to continue in the position, when he was assured that he would be supported by the parliament if he made some minor changes in the cabinet.

**PERSIAN LITERATURE.** See PHILOLOGY, MODERN.

**PERU**, pé-rō'. A republic on the Pacific coast of South America; bounded on the north by Ecuador and Colombia; on the east by Brazil and Bolivia; and on the south by Bolivia and Chile. Capital, Lima.

**AREA AND POPULATION.** On the basis of an estimate by the Lima Geographical Society in 1915, the total area, including Tacna, is 532,047 square miles. (See ARBITRATION, INTERNATIONAL.) The last official census was in 1876, when the population was fixed at 2,660,881; an estimate in 1898 placed it at 4,634,601; another in 1921 placed it at about 5,500,000, although grave doubts were expressed in some quarters as to whether the population was increasing at all. The above figures do not include an indeterminate number of uncivilized Indians. The capital, Lima, according to the official census of Dec. 17, 1921, had 176,467 inhabitants. The estimated population of the principal cities in 1924 was as follows: Lima, 187,000, with suburbs, 220,000; Callao, 58,500; Arequipa, 50,000; Cuzco, 28,000; Ica, Trujillo, and Chiclayo, 25,000 each.

**EDUCATION.** According to the report in the president's message the number of schools offering primary education in 1925 was 826, with 1465 teachers. The enrollment in these was 49,749, with an average daily attendance of 33,675. In view of the success obtained with the traveling schools, the number of these was increased to 30, and their field of operation was extended to include the provinces of La Paz, Chalatenango, and Morazán. There are also secondary and technical schools. For higher education there is the central university at Lima.

**PRODUCTION.** The chief agricultural products are sugar, cotton, and coffee. The sugar industry, which is first in importance, is engaged in, chiefly, in the coastal region, 137,729 acres being devoted to the cultivation of cane in 1924, with 30,051 laborers. The production was placed at 316,904 tons. The area devoted to cotton cultivation was 280,624 acres, with the aid of 40,557 laborers. The cultivation of cocoa was extending, and other products were wheat, corn, ramie, tobacco, wines, and olives. Hides, wool, and skins are important articles of export. Dyes, with cinchona and other medicinal plants, contribute to the country's wealth; and the manufacture of cocaine is carried on in several towns to some extent. The principal mineral resources are copper, petroleum, silver, gold, and coal.

**COMMERCE.** Official statistics of the foreign trade of Peru show that the total value of goods imported and exported for the first six months of 1926 were valued at £P19,738,338, as compared with £P10,211,116 for the same period of 1925.



Exports during the first half of 1926 amounted to £P10,437,461, as against imports valued at £P9,300,877, making a favorable trade balance in excess of £P1,000,000. Peruvian exports are, as a general thing, equally divided between agricultural and mineral products, but in 1926, owing to the drop in cotton and sugar prices and to the increase in petroleum production, the mineral exports have greatly exceeded the others. It is estimated that Peruvian oil production in 1926 would exceed 1,500,000 tons, worth more than £P10,000,000. (£P = libras peruanas, Peruvian pounds.)

**FINANCE.** In the financial section of the President's message to Congress on July 28, 1925, the accompanying statements were made regarding the 1924-25 budget:

The receipts were estimated at £P7,879,489, and the revenues actually collected amounted to £P9,184,028, £P29,505 still remaining to be collected, which gives a greater income by £P1,334,044 than estimated. The expenditures were estimated in the budget at £P7,879,489, and the additional credits made by special laws amounted to £P706,712, which makes a total of £P8,586,201 authorized by Congress. Expenditures during the fiscal year amounted to £P8,493,391. If to this amount is added the sum £P88,583 which represents the balance to be paid on April 30 last, the total amount of expenditures is £P8,581,974.

Receipts and expenditures for the year 1926 were balanced, both being estimated at £P9,762,830. The expenditures were distributed in the following manner:

	Peruvian pounds
National Senate .....	78,047
House of Representatives .....	201,905
Regional Congresses .....	19,620
Minister of the Interior .....	1,576,097
Minister of Foreign Relations .....	252,354
Minister of Justice .....	1,393,976
Minister of the Treasury .....	3,673,032
Minister of War .....	1,147,794
Minister of the Navy .....	411,314
Minister of Public Works .....	1,013,690
Total .....	9,762,830

**COMMUNICATIONS.** In 1924, 1265 steamers of 2,508,952 tons entered at the port of Callao and 1141 of 2,163,117 tons cleared. The total working length of the Peruvian railways in 1924 was 2081 miles, 1486 miles being under the control of the state.

**GOVERNMENT.** Executive power is vested in a president elected for five years and eligible for a succeeding term; and legislative power in the congress consisting of a senate with 35 members and a house of representatives with 110 members. The president acts through a cabinet of seven, appointed and removed at his pleasure. President at the beginning of the year, Augusto B. Leguia.

**HISTORY.** On July 28 the republic of Peru celebrated the 105th anniversary of its independence. The ceremonies were marred, to some extent, by the demands for the return of Tacna and Arica from Chile. Constitutional changes were approved by the Chamber of Deputies in August, when it was decided that guarantees of personal liberty could be suspended by the government when circumstances warranted it, and when it was determined that in the future archbishops and bishops were to be appointed by the Vatican rather than by congress. The congress was called into special session on December 6 for the principal purpose of considering the budget for 1927. In order to obtain increased revenues, a

new tariff law was signed on November 19 by President Leguia. This law increased the duties on certain articles and was to remain in effect until Nov. 6, 1927.

For Tacna Arica Controversy see **ARBITRATION, INTERNATIONAL.**

**PETROLEUM.** In 1926 the petroleum production of the world increased somewhat over 1925, the United States continuing to dominate the situation, producing 71 per cent of the total which was estimated at 1,095,000,000 barrels. Mexico showed a diminished yield in 1926, while Russia continued to increase, and Venezuela, with almost a doubled output, was in fourth place, being ahead of Persia. Rumania ranked ahead of the Dutch East Indies, while Colombia, for the first time, was an important producer. The accompanying table from the annual review number of *Engineering and Mining Journal* (New York) gives the world production of 1925 as compiled by the United States Bureau of Mines, with estimates for 1926.

#### WORLD'S PRODUCTION OF CRUDE PETROLEUM

	1925 * Thousands of barrels	1926 * Thousands of barrels
United States .....	763,743 <sup>c</sup>	775,000
Mexico .....	115,515	91,000
Russia .....	52,448	60,000
Venezuela .....	19,687	37,000
Persia .....	35,038	36,000
Rumania .....	16,646	23,750
Dutch East Indies .....	21,422	22,000
Peru .....	9,164	11,000
British India .....	8,000	8,500
Poland .....	5,960	6,000
Colombia .....	581	5,000
All other countries .....	19,362	19,750
Totals .....	1,067,566	1,095,000

\* Official figures, compiled by L. M. Jones, U. S. Bureau of Mines.

<sup>b</sup> Estimated.

<sup>c</sup> Bureau of Mines.

The northern heavy oil fields in Mexico reduced their production in 1926 to about 58,000,000 barrels, as compared with 78,430,526 barrels in 1925. In the southern light oil fields the production, which in 1925 was 37,084,174 barrels, declined to about 33,000,000 in 1926. (See MEXICO, sections on *Mineral Production* and *History*.) In Russia the production of crude oil came from three principal districts and was an increase of 17 per cent over 1925. Sixty-seven per cent of the output came from the Baku district and about 30 per cent from the Grozny. In Venezuela the greater part of the production came from the La Rosa pool, with Mene Grande second and El Mene third. In August there was discovered the Lagunillas pool between La Rosa and Mene Grande, which, from August to September, yielded over 1,000,000 barrels. There was also other production in different fields. In Rumania the Prahova and the Dambovitza districts together supplied nearly 95 per cent of the entire output and with the increased production there was a decline in prices. In Persia the Anglo-Persian Company estimated its production for the fiscal year ending Mar. 31, 1927, at 36,351,000 barrels, as compared to 35,038,000 barrels in the 1926 fiscal year. On July 1, 1926, the Andean National Corporation's pipe line, 360 miles in length, was put in commission and conveyed oil from the Infantas oil field, Colombia, to Cartagena, so that this field was able to produce at something like its normal capacity. The first tank steamer left for New York on July 4, 1926, and by the end of the year



more than 3,500,000 barrels of Colombian crude oil had entered the United States, with a total estimated production for Colombia of 5,000,000 barrels.

In the United States the total production of crude petroleum was estimated by the United States Bureau of Mines at 766,504,000 barrels as compared with 763,743,000 barrels in 1925. With due allowance made for oil consumed on the leases and for differences in producers' storage at the beginning and end of 1926, the total amount of crude petroleum raised to the surface in the United States was estimated at approximately 775,000,000 barrels. There were decreases in output of California, Wyoming, and Arkansas which were offset by increases in the production of Oklahoma, Kansas, Louisiana, Montana, Texas, Colorado, and New Mexico, as well as by small gains in the Appalachian states. The imports of crude petroleum in 1926 amounted to 60,382,000 barrels, valued at \$79,307,877, as against 61,824,000 barrels, valued at \$75,406,956. Of these imports about 67 per cent came from Mexico, 20 per cent from Venezuela, and 5.8 per cent from Colombia. The accompanying table from the U. S. Bureau of Mines indicates the production of crude petroleum by fields and states in the calendar years 1926 and 1925.

PRODUCTION OF CRUDE PETROLEUM BY  
FIELDS AND STATES WITH CLASSIFI-  
CATION BY GRAVITY  
[Barrels of 42 U. S. gallons]

Field	1926	1925 *
Appalachian .....	28,617,000	27,610,000
Lima-Indiana .....	2,041,000	2,120,000
Michigan .....	98,000	4,000
Illinois and S. W. Indiana ..	8,420,000	8,512,000
Mid-Continent .....	422,590,000	424,381,000
Gulf Coast .....	44,074,000	33,112,000
Rocky Mountain .....	36,547,000	35,554,000
California .....	224,117,000	232,492,000
U. S. Total .....	766,504,000	763,743,000
State		
Arkansas .....	59,229,000	77,398,000
California .....	224,117,000	232,492,000
Colorado .....	2,717,000	1,226,000
Illinois .....	7,766,000	7,863,000
Indiana .....	793,000	829,000
Southwestern .....	654,000	649,000
Northeastern .....	139,000	180,000
Kansas .....	41,427,000	38,357,000
Kentucky .....	6,280,000	6,759,000
Louisiana .....	22,803,000	20,272,000
Gulf Coast .....	3,884,000	3,227,000
Rest of State .....	18,919,000	17,045,000
Michigan .....	98,000	4,000
Montana .....	7,645,000	4,091,000
New Mexico .....	1,627,000	1,060,000
New York .....	1,956,000	1,695,000
Ohio .....	7,322,000	7,212,000
Central and Eastern .....	5,420,000	5,272,000
Northwestern .....	1,902,000	1,940,000
Oklahoma .....	179,272,000	176,768,000
Osage County .....	25,354,000	28,220,000
Rest of State .....	153,918,000	148,548,000
Pennsylvania .....	8,942,000	8,097,000
Tennessee .....	44,000	24,000
Texas .....	163,933,000	144,648,000
Gulf Coast .....	40,190,000	29,885,000
Rest of State .....	123,743,000	114,763,000
West Virginia .....	5,975,000	5,763,000
Wyoming .....	24,558,000	29,173,000
Salt Creek .....	17,855,000	21,445,000
Rest of State .....	7,173,000	7,728,000
Classification by gravity (ap- prox.)		
Light crude .....	629,462,000	620,867,000
Heavy crude .....	137,042,000	143,876,000

\* Final figures—this total includes Alaska (8,000 barrels), not given above, and approximately 8,000,000 barrels consumed on leases, etc., not included in 1926 figures.

In May, 1926, according to a survey made by the U. S. Bureau of Mines, there were 90,170 miles of petroleum pipe lines in the United States, with a capacity of 15,750,000 barrels, or the equivalent of one-fourth of the average production of the country for one month. These lines varied in diameter from 2 to 16 inches, the weighted average being 6 inches. The total pipe line mileage was about equally divided between trunk lines, which aggregated 44,470 miles, and gathering lines, which totaled 45,700 miles, though the capacity of the trunk lines was about four times that of the gathering lines, due, of course, to the difference in average diameter, the former being 7.4 inches, as compared with 3.7 inches for the latter. Oklahoma was the leading state, with 19,180 miles of pipe line, Texas second with 15,530 miles, and Pennsylvania third with 11,600 miles. The supremacy of Texas in this field was naturally due to its size and to the growth of the movement to its Gulf ports. On the other hand, California, the leading state in the matter of petroleum production, ranked but seventh in pipe line mileage on account of the fortunate location of the Los Angeles Basin fields, some of which were within sight of the refineries to which their oil was delivered, or in close proximity to the port of San Pedro, through which their oil was shipped. In 1924 the total mileage of pipe lines in the United States was 82,832, with a capacity of 14,447,500 barrels, so that the increase in two years was about nine per cent in both mileage and capacity.

The grand total of tankage, exclusive of producers' storage at the wells, available in the United States for the storage of crude petroleum and of petroleum products at the refineries on May 1, 1926, amounted to over 800,000,000 barrels, of 42 U. S. gallons. Of this total tank capacity nearly 500,000,000 barrels were at tank farms and over 300,000,000 barrels at refineries. Of the latter, 80,000,000 barrels were crude storage, so that the total available tankage for crude petroleum on May 1, 1926, was approximately 580,000,000 barrels. Of the various types of storage tanks, steel storage was by far the most widely used and comprised 80 per cent of the total. The remainder was about evenly divided between earthen and concrete storage, with wooden storage almost negligible. There was available at Atlantic ports approximately 60,000,000 barrels of tankage, 40,000,000 barrels of which was for refined products. At ports on the Gulf of Mexico there was storage capacity for about 130,000,000 barrels, of which 75,000,000 barrels was for crude oil. See CHEMISTRY, INDUSTRIAL.

**PETTIGREW**, RICHARD FRANKLIN. Former United States Senator from South Dakota, died at Sioux Falls, S. D., October 5. He was born at Ludlow, Vt., July 23, 1848, and, going to Sioux Falls, quickly sprang into political leadership. In both politics and religion he was an inviolable nonconformist. He achieved nation-wide fame for a few days when he walked out of the Republican national convention in 1896 on its adoption of a platform opposed to the free coinage of silver. On South Dakota's admission to the Union in 1889 he became that State's first senator, having previously served as a delegate to Congress from Dakota Territory. He supported Bryan in his first campaign for the Presidency, and later frequently joined independent party movements. Following his break with the Republican party, he was defeated for the

Senate, and never again held public office. He gave much attention, after his retirement from public life, to the amassing of many curios in his home which, he announced, would on his death go to the city of Sioux Falls as a public museum.

**PHARMACO-PSYCHOLOGY.** See **INSANITY.**

**PHILADELPHIA EXPOSITION.** See **EXPOSITIONS.**

**PHILADELPHIA SYMPHONY ORCHESTRA.** See **MUSIC.**

**PHILHARMONIC ORCHESTRA.** See **MUSIC.**

**PHILIPPINES**, fil'i-pîns, -pên, or pîns. The largest island group of the Malay archipelago; a possession of the United States, ceded by Spain in the treaty of Apr. 11, 1899. Capital, Manila.

**AREA AND POPULATION.** Only 466 of the 7000 islands which make up the group have an area of one square mile or more. The most important islands with their area in square miles are as follows: Luzon, 40,814; Mindanao, 36,906; Samar, 5123; Negros, 4902; Palawan, 4500; Panay, 4448; Mindoro, 3794; Leyte, 2799; Cebu, 1695; Bohol, 1634; and Masbate, 1255. Total area, 114,400 square miles; population, according to the census of 1918, 10,314,310. An estimate of the population in 1925, based upon official computations, placed it at 11,868,300. The population of Manila was 285,306, according to the census of 1918. According to the census of 1918, the race distribution was as follows: Brown, 9,386,826; yellow, 50,826; white, 12,390; negro, 7623; half-breed, 34,663. The immigrants in 1925 numbered 29,310 and the emigrants numbered 29,805.

**EDUCATION.** The outstanding event in education for the year 1925 was a thorough survey of the public-school system. The findings of the surveying board, under the chairmanship of Dr. Paul Monroe of Columbia University, were in general encouraging as regards the success of the public-school system as established. The board strongly recommended that English be continued as the medium of instruction, and that steps be taken to increase the average time that pupils remain in school from three years as at present, to five years. It pointed out the need of a much larger number of American teachers and recommended their assignment to normal schools where they would come into contact with prospective Filipino teachers. The accompanying table gives the chief facts concerning Philippine education:

**PUBLIC SCHOOLS: ENROLLMENT AND NUMBER OF SCHOOLS, 1921-1925**

School-year	Number of schools	Total annual enrollment	Average monthly enrollment	Average daily attendance	Estimated school population	Per cent of enrollment to school population *
1920-1921.....	6,904	943,364	836,281	774,882	2,792,000	33.79
1921-1922.....	7,670	1,077,342	975,093	909,947	2,855,000	38.00
1922-1923.....	7,632	1,102,896	1,000,437	936,120	2,855,000	38.22
1923-1924.....	7,669	1,132,719	1,026,579	957,123	2,924,000	38.74
1924-1925.....	7,789	1,130,866	1,015,455	956,241	2,966,000	38.11

\* Based on the total annual enrollment.

**PRODUCTION.** The total estimated area of arable land in 1925 was placed by the governor-general at 9,000,000 hectares, and the area under the six principal crops shown below was 3,511,000 hectares. The value of the six leading crops for 1924 and 1925 is shown in the accompanying table:

**VALUE OF SIX LEADING CROPS FOR 1924 AND 1925**

	1924 Pesos	1925 Pesos	Per cent increase (+) or decrease (-)
Rice .....	172,957,290	192,179,000	+ 7.
Sugarcane ..	105,667,180	108,310,000	+ 2.6
Coconuts ...	68,184,370	69,600,000	+ 2.
Abaca (hemp)	40,982,280	65,148,000	+ 59.
Corn .....	33,303,960	30,767,000	- 8.
Tobacco ....	11,505,420	11,547,000	.....
Total ..	432,550,500	477,551,000	+ 10.5

The last livestock census showed 1,616,541 carabao; 873,995 cattle; 289,705 horses and mules; 7,524,815 hogs; 1,163,614 goats, and 301,688 sheep. The chief mineral products include gold, coal, salt, iron, copper, silver, and asphalt rock.

**COMMERCE.** The following table from the governor-general's report shows the growth of foreign trade during ten years:

Year	Imports	Exports	Trade balance in favor of (+) or against (-) the Philippine Islands
	Pesos	Pesos	Pesos
1915.....	98,624,367	107,626,008	+ 9,001,641
1916.....	90,992,675	139,874,366	+ 48,881,690
1917.....	131,594,061	191,208,613	+ 59,614,552
1918.....	197,198,423	270,388,964	+ 73,190,541
1919.....	237,278,104	226,235,652	- 11,042,452
1920.....	298,876,565	302,247,711	+ 3,371,146
1921.....	231,677,148	176,230,645	- 55,446,503
1922.....	160,395,289	191,166,596	+ 30,771,307
1923.....	174,999,494	241,505,980	+ 66,506,486
1924.....	216,021,790	270,689,825	+ 54,667,535
1925.....	239,465,667	297,754,410	+ 58,288,743
1926 * .....	238,538,000	273,725,000	+ 35,187,000

\* Preliminary figures.

Business activity in the Philippines in 1926 compared favorably in the aggregate with that of the previous year although during the latter half of the year decreased sugar production and lower cotton prices in the United States acted as a retarding influence. The rice production was estimated at 10 per cent above that of 1925 as the result of favorable weather conditions and increased irrigation facilities; while aside from sugar all other crops were larger in 1926 than in the previous year.

According to the preliminary annual report of the Secretary of Finance the government revenues approximated 77,700,000 pesos (\$38,850,000), or an increase of 4,000,000 pesos (\$2,000,000) over the budget estimate. The net cash surplus of revenues over cash expenditures amounted to about 9,900,000 pesos (\$4,950,000).

The foreign trade in 1926 was smaller than in 1925, but compared favorably with the average for the previous five years. The trade in 1925 was considerably larger than in any year since 1920 and the slight decline in imports in 1926 reflected overproduction of domestic foodstuffs, rather than any measurable decline in purchas-









ing power. Imports in 1926 were valued at 238,538,000 pesos (\$119,269,000), compared with 239,465,000 pesos (\$119,732,500) the previous year, or a decrease of only one-half per cent. Total exports, valued at approximately 273,725,000 pesos (\$136,862,500), registered a decline of 24,029,000 pesos (\$12,014,500) from the export trade of 1925. The decline was more than accounted for by the falling off in value of sugar and abaca shipments.

The year's commercial transactions netted a favorable trade balance of 35,187,000 pesos (\$17,593,500), against an excess of exports in 1925 of 58,288,000 pesos (\$29,144,000). Despite the reduction, however, the trade balance in 1926 was reported by the Governor General to be sufficient to meet all payments of the Philippine government and of private business abroad. The values of leading Philippine exports and imports in 1926, compared with 1925, were as follows:

#### LEADING COMMODITIES IN PHILIPPINE TRADE

	1925 Pesos	1926 Pesos
<b>Exports</b>		
Abaca (manila hemp) . . . . .	71,042,000	64,277,000
Sugar . . . . .	91,028,000	64,458,000
Coconut oil . . . . .	39,640,000	44,691,000
Copra . . . . .	31,738,000	37,173,000
Copra cake . . . . .	3,397,000	3,472,000
Cigars and cigarettes . . . . .	12,251,000	11,441,000
Leaf tobacco . . . . .	6,181,000	5,359,000
Other . . . . .	42,527,000	42,854,000
<b>Total . . . . .</b>	<b>297,754,000</b>	<b>273,725,000</b>
<b>Imports</b>		
Iron and steel, and manufac- tures . . . . .	27,920,000	27,042,000
Cotton and manufactures, except cloth . . . . .	14,898,000	15,841,000
Cotton cloth . . . . .	40,298,000	40,629,000
Meat and dairy products . . . . .	10,939,000	11,909,000
Automobiles, parts, and tires . . . . .	9,215,000	10,837,000
Wheat flour . . . . .	11,224,000	9,825,000
Paper and manufactures . . . . .	6,813,000	7,158,000
Leather and manufactures . . . . .	2,953,000	3,192,000
Other . . . . .	115,205,000	113,125,000
<b>Total . . . . .</b>	<b>239,465,000</b>	<b>238,538,000</b>

FINANCE. The accompanying table shows the budget estimates for 1925 and 1926:

#### BUDGET ESTIMATES FOR THE INSULAR GOVERNMENT, 1925-1926

Items of revenue and expenditures	1925 Pesos	1926 Pesos
Income . . . . .	67,161,987	70,001,850
Revenue from taxation . . . . .	48,670,117	53,561,900
Incidental revenue . . . . .	6,023,380	3,903,500
Earnings and other credits . . . . .	12,468,490	12,536,450
Income from proposed legisla- tion . . . . .	.....	.....
Current surplus at the beginning of the year . . . . .	.....	.....
<b>Total available for expenditures</b>	<b>67,161,987</b>	<b>70,001,850</b>
<b>Expenditures . . . . .</b>	<b>67,045,249</b>	<b>69,082,248</b>
Expense of revenue collection	1,659,558	1,743,676
Operating expense of commer- cial and industrial units . . . . .	7,581,285	7,490,019
Public debt . . . . .	9,889,466	10,298,996
General administration . . . . .	5,946,984	5,941,979
Protective service . . . . .	9,466,538	9,090,956
Social improvement . . . . .	8,588,103	8,929,744
Economic development . . . . .	7,707,791	8,414,709
Aid to local governments . . . . .	18,684,899	18,619,122
Retirement gratuities, Act 2589	180,000	250,000
Emergency service . . . . .	.....	.....
Transfer to gold standard fund . . . . .	.....	600,000
Outlays and investments . . . . .	2,411,125	2,708,047
<b>Current surplus at the end of the year . . . . .</b>	<b>116,738</b>	<b>919,602</b>

The total bonded indebtedness of the Philippine Islands at the end of 1925 amounted to 165,520,000 pesos, of which 13,920,000 represented provincial and municipal indebtedness, 5,500,000 collateral bonds, and the balance direct obligations of the insular government.

SHIPPING. Most of the foreign shipping is done through the port of Manila, although some of the smaller ports have direct communications with foreign countries. In the calendar year 1925, 1015 vessels of 3,788,695 tons entered the ports of the Philippines, and 984 of 3,711,270 tons cleared. In the same year 19,001 vessels of 2,245,919 tons entered the ports of the islands in domestic trade and 19,287 vessels of 2,252,779 tons cleared in the same trade.

RAILWAYS. The total length of all railroad trackage in the Philippines in 1925 was 1272.72 kilometers, with a total freight and passenger revenue of 11,524,972 pesos.

GOVERNMENT. Executive power is in the hands of a governor-general appointed by the President of the United States, by and with the advice and consent of the Senate; and in six departmental secretaries, all of whom are Filipinos, with the exception of the vice-governor (appointed in the same manner as the governor-general), who acts also as secretary of public instruction. Legislative power is in a senate of 24 members and a house of representatives of 93 members, all of whom are elected by popular vote, with the exception of nine representatives and two senators appointed by the governor-general to represent certain provinces. A council of state, composed of the governor-general as president, the presidents of both branches of the legislature, and the departmental secretaries, constitutes the link between the administrative and legislative departments. Governor-General in 1926, Major-General Leonard Wood, appointed Oct. 5, 1921.

HISTORY. Undoubtedly, the outstanding event in Philippine history during the year was the publication of the report of Col. Carmi A. Thompson, who had been sent to the islands by President Coolidge to make a personal investigation of conditions there, in order to advise the President as to a course of action to be followed in the relations of the islands to the home government. Colonel Thompson's report was published on December 23. On the preceding day the President had transmitted the report to Congress, practically without comment. While he stated that he did not agree with all of Colonel Thompson's views, he failed to name the particulars on which he disagreed. It was commonly believed that he differed with the veiled criticism of General Wood's administration. While indicating that responsibility for friction in the management of Philippine affairs "appears to be divided between the executive and legislative branches of the government" and that General Wood's military aids have been "one of the factors which have made such coöperation difficult," Colonel Thompson conceded that "on the whole General Wood is to be commended for his efficient conduct of affairs during his administration." In concluding his report Colonel Thompson made a number of suggestions of what might be done to secure a better administration of affairs in the Philippines and a further development of their economic condition. He said:

In conclusion, these suggestions are summarized and certain other recommendations made. I have the honor to recommend:

First—That such steps be taken as may be required

to reestablish coöperation between the executive and legislative branches of the Philippine Government.

Second—That the granting of absolute independence to the Philippines be postponed for some time to come; that this matter be considered at some future date when the islands are sufficiently developed to maintain an independent government, and that in the meantime there be granted such further autonomy in the management of internal affairs as conditions may from time to time warrant.

Third—That the United States Government establish an independent department for the administration of the Philippine Islands and other overseas territory.

Fourth—That the Governor General be provided with the necessary civil advisers in order to relieve him of the present necessity of selecting such advisers from the United States Army.

Fifth—That Mindanao and Sulu should not be separated from the rest of the islands, but that American control be strengthened in the Moro country.

Sixth—That the Federal Reserve system should be extended to the Philippine Islands.

Seventh—That one or more Federal land banks should be established in the Philippines to provide loans at reasonable interest rates for the farmers, who now pay from 12 to 30 per cent interest.

Eighth—That the United States Department of Agriculture establish a sufficient number of experiment stations in the Philippine Islands to properly develop the agricultural resources of the islands.

Ninth—That the fundamental law governing the Philippines, known as the Jones act, be not amended or changed at this time.

Tenth—That the Philippine Legislature should amend the Philippine land laws (with proper safeguards) so as to bring about such conditions as will attract capital and business experience for the development of the production of rubber, coffee and other tropical products, some of which are now controlled by monopolies.

Eleventh—That no amendments be made at this time to the Philippine land laws by the American Congress.

Twelfth—That the Philippine Government withdraw from private business at the earliest possible date.

The fundamental problems in the Philippines concern the government of the islands and their future relations with the United States. Upon the proper solution of these problems depends the political, social and economic welfare of the Filipinos.

**PHILLIPS UNIVERSITY.** A coeducational institution of higher education, at University Station, Enid, Okla.; founded in 1907. The student enrollment for 1925-26 in all departments was 1012, and the limited freshman admission was 1270. The number in the faculty was 39. The productive endowment amounted to \$506,830, and an endowment campaign completed during the year brought \$1,252,184 in equipment and pledges. There were 14,012 volumes in the library, exclusive of public documents. President, Isaac Newton McCash, A.M., D.D., LL.D.

**PHILOLOGY, CLASSICAL.** To describe completely the output of articles and books, especially the former, within the very broad field covered by the term classical philology, is beyond the power of any one man. One can, however, gain a fair conception of the more important contributions by examining lists, or abstracts, or both, given in certain periodicals—*American Historical Review*, *The American Journal of Philology*, *The Classical Journal*, *The Classical Quarterly*, *The Classical Review*, *The Classical Weekly*, *Historical Outlook*, *Athenæum* (published at Pavia, Italy), *Bulletin Bibliographique et Pédagogique du Musée Belge* (a companion to *Le Musée Belge*, *Revue de Philologie Classique*), *Philologische Wochenschrift*, and *Revue de Philologie*. Especially valuable is *Bibliotheca Philologica Classica*, *Beiblatt zum Jahresbericht über die Fortschritte der Klassischen Altertumswissenschaft*, whose aim is to cover all publications, both articles and books (except those pedagogical in character) in the whole field of classical philology. Volume 50, covering the year 1923, appeared in 1926. It contained 4334 items. Volume 49, published in 1925, contained

3783 entries for 1922. No attempt is made, however, to indicate relative values of items listed. *The Year's Work in Classical Studies*, published in England, gives material from July to June, annually. The material is grouped. The volume covering July, 1925, to June, 1926, contained the following articles: "Greek Literature," J. F. Dobson; "Latin Literature," A. D. Nock; "Greek History," M. Cary; "Roman History," Hugh Last; "Greek and Roman Religion," H. J. Rose; "Ancient Philosophy," Dorothy Tarrant; "New Testament," F. H. Colson and J. M. Creed; "Roman Britain," F. A. Bruton; "Greek Archaeology and Excavation," A. M. Woodward; "Italian Archaeology and Excavation," T. Ashby.

To the *Loeb Classical Library* (see YEAR BOOKS, 1911-1925) were added, on the Greek side, versions of Æschylus (the second and concluding volume), H. W. Smyth; Aristotle, *The "Art" of Rhetoric*, J. H. Freese; Aristotle, *The Nicomachean Ethics*, H. Rackham; Dio Cassius, Earnest Cary (the eighth of nine volumes); Diogenes Laertius (two volumes), R. D. Hicks; Demosthenes, *De Corona* and *De Falsa Legatione*, C. H. Vince and J. H. Vince; Epictetus, *The Discourses, As Reported by Arrian, The Manual, and Fragments* (one of two volumes), W. A. Oldfather; Eusebius, *The Ecclesiastical History* (one of two volumes), Kirsopp Lake; Josephus, *The Life, and Against Apion* (one of eight volumes), H. St. J. Thackeray; Pausanias, books iii-v (the second of six volumes), W. H. S. Jones and H. A. Ormerod; Plato, volume v, containing *Lysis*, *Symposium*, *Gorgias*, W. R. M. Lamb; Plato, volume vi, containing *Cratylus*, *Parmenides*, *Greater Hippias*, *Lesser Hippias*, H. N. Fowler; Plato, vols. ix and x, *The Laws*, complete, R. G. Bury; Plutarch (the eleventh and final volume), B. Perrin; St. Basil, Letters I-LVIII (one of four volumes), R. J. Deferrari. On the Latin side, translations were added of Cicero, *Philippics*, W. C. A. Ker; Horace, *Satires, Epistles and Ars Poetica*, H. R. Fairclough; Livy, Books viii-x (the fourth of 13 volumes), B. O. Foster.

The great translation of Aristotle which the Oxford Clarendon Press has had under way for many years, under the editorship of W. D. Ross, is making steady progress. Recent additions include, in one volume, renderings of *Categorica* and *De Interpretatione*, E. M. Edghill, *Analytica Priora*, A. J. Jenkinson, and *Analytica Posteriora*, G. R. G. Mure; in another, versions of *Ethica Nicomachea*, W. D. Ross, *Magna Moralia*, St. George Stock, *Ethica Eudemia*, and *De Virtutibus et Vitiis*, J. Solomon. Of the eleven volumes seven have been published.

In *The American Journal of Philology*, xlvii, appeared "The Res Gestæ Divi Augusti as Recorded on the Monumentum Antiochenum," D. M. Robinson; "The Inscriptions of the Imperial Domains of Africa," T. Frank; "Cicero, De Optimo Genere Oratorum," G. L. Hendrickson; "Ut Clauses. Part II," C. W. Mendell; "A Commentary on the Inscription from Henchir Mettich in Africa," T. Frank; "Cicero's Correspondence with Brutus and Calvus on Oratorical Style," G. L. Hendrickson; "The Significance of Augustus as Applied to Hercules and to Romulus: A note on Livy I, 7, 9 and I, 8, 9," Gertrude M. Hirst; "Hyperbole in Mythological Comparison," Helen H. Law. Professor Robinson's paper is, in reality, an *editio princeps* of the version of the Res Gestæ Divi



Augusti found, in fragments, by Sir William Ramsay at Antioch in Pisidia, Asia, and an attempt—unhappily marred by haste—to determine what light the new finds throw on the famous autobiographical inscription prepared by Augustus himself, or under his immediate supervision, as that inscription has been known to us by the version found at Ancyra (Angora), and so known as the Monumentum Ancyranum. For a review of Professor Robinson's monograph, by A. von Premerstein, who has been engaged with Sir William Ramsay on an edition of the Monumentum Antiochenum, see *Philologische Wochenschrift*, 47, 43–50 (Jan. 8, 1927). Professor Frank's paper on the inscription from Henschir Mettich throws light on Roman agricultural practices in Africa.

From *Classical Philology*, xxi, may be mentioned "The Language Situation in and about Greece in the Second Millennium B.C." C. D. Buck; "Things Without Honor," A. S. Pease; "Representative Government in the Panhellenic Leagues, II," J. A. O. Larsen; "Posidonius and the Flight of the Mind Through the Universe," R. M. Jones; "The 'Lost' Manuscript of Cicero's *De Amicitia*," C. H. Beeson; "Μηδων Ἀγαν in Greek and Latin Literature," Eliza G. Wilkins; "Asteria and Dulichium," A. Shewan; "Centaur and Macedonian Kings," E. H. Sturtevant; "Tacitus and Aristocratic Tradition," F. B. Marsh; "The *Hellenica Oxyrhynchia* and the Devastation of Attica," W. G. Hardy. Professor Pease discusses Greek and Roman writings in which "the legitimate methods of encomium are applied to persons or objects in themselves obviously unworthy of praise, as being trivial, ugly, useless, ridiculous, dangerous, or vicious." Professor Jones's paper adds one more to the voices lifted in recent years, especially in America, against the tendency, strong in Germany early in this century, to regard Posidonius as the source of many passages in Greek and Roman authors, especially Cicero and Vergil. Professor Beeson gives the results of an examination of the Codex Parisinus of the *De Amicitia* of Cicero, a manuscript long thought to be lost, but in fact in the Royal Library in Berlin.

In *The Classical Journal*, xxi, xxi, appeared "Cicero's Conception of Literary Art," A. P. McKinlay; "Certain Similarities in the Fundamental Thought of the Early Hebrews and the Homeric Greeks," Charles N. Smiley; "Cicero and the Younger Pliny," H. C. Nutting; "The *Moirai* of Æschylus and the Immanent Will of Thomas Hardy," A. P. D. Valakis; "How Long was Æneas at Carthage?," F. H. Potter; "Where the Romans Lived <in Rome> in the First Century B.C.," Ruth Witherstine; "In Defense of the Corn-Dole," F. B. Marsh; "Some Human Traits of the Scholar Pliny <the Elder>," H. L. Axtell.

*The Classical Weekly*, xix, xx, contained the following articles: "Horace, *Carmina* 1. 2. 13–18," C. Knapp; "Some Presuppositions of Greek Philosophy," G. Boas; "Cæsar's Triumphs," M. E. Deutsch; "Virgil, *Georgics* 1. 311–334," C. Knapp; "Gray's Elegy and the Classics," D. L. Drew; "Some Private Houses in Ancient Rome," Euphemia M. Mann; "Whitewashing Certain of the Ancients," M. M. Odgers; "Some Illustrations of Roman Life," C. Knapp; "Cæsar's Command in Gaul," H. C. Coffin; "M. Victor Bérard on the *Odyssey*," A. Shewan; "The Greek Exploitation of Egypt," W. L.

Westermann; "The Present Trend in Vergilian Studies," Catharine Saunders; "Scientist and Humanist in Homeric Criticism, or, Tendencies in Homeric Criticism," S. E. Bassett; "The Classical Astral Weather Chart for Rustics and for Seamen," E. S. McCartney.

In *Transactions and Proceedings of the American Philological Association*, lvi, which contained the papers read before the Association at Cornell University, in December, 1925, the following articles appeared: "Concerning the Influence of Greek on Vulgar Latin," E. H. Sturtevant; "On a Passage in Vergil, *Æneid* iv, 550–551," M. B. Ogle; "The Vella: A Study in Historical Topography," H. F. Rebert; "The Identification of Augustus with Romulus-Quirinus," K. Scott; "Horace and the Scriptus Quæstorius," C. B. Randolph; "Some Neglected Evidence Bearing on the Ictus Metricus in Latin Verse," J. F. Mountford; "The Virgilian Authorship of the Helen Episode, *Æneid* ii, 567–588," F. W. Shipley; "Vergil and the 'Under-Dog,'" E. Adelaide Hahn; "A Picture Map of Rome in a Manuscript of Valerius Maximus," F. W. Kelsey.

Of the periodical called *Language*, published by the Linguistic Society of America, the formation of which was noted in the *YEAR BOOK* for 1925, two volumes have appeared. Articles that fall within the range of classical philology are the following: "On the Position of Hittite among the Indo-European Languages," E. H. Sturtevant; "Remarks on the Lydian Inscriptions," E. H. Sturtevant; "The Indo-European Negative prefix in *N*," L. H. Gray; "Analogy as a Factor in Semantic Change," S. Kræsch; "Stress Pronunciation in Latin," M. H. Liddell; "A Century of Grimm's Law," H. Collitz; "On Some Animal Names in Italic <Latin>," R. G. Kent; "The Inscription of Duenos," R. G. Kent; "Commodian and Medieval Rhythmic Verse," E. H. Sturtevant. Especially important to the student of things Latin are the papers of Professors Liddell and Kent. The former thinks that, in classical times, Latin accent was not primarily a stress accent. Professor Kent interprets the inscription on the famous Duenos Bowl as a curse aimed at a living person.

In England, the more accessible repositories of the results of classical study are *The Year's Work in Classical Studies* (see above, first paragraph), *The Classical Quarterly*, and *The Classical Review*. From *The Classical Quarterly*, xx, we name the following articles: "Euripides in Macedon," W. Ridgeway; "The Text of the Epistles of Themistocles (*continued*)," J. Jackson; "Anaxagoras and the Parts," A. L. Peck (an attempt to formulate, better than has heretofore been done, the philosophic views of Anaxagoras); "The Myth of Er" (Plato, *Republic*, 616 B), Hilda Richardson; "On the Authenticity of the *Hippias Maior*," G. M. A. Grube; "Homeric Words in Arcadian Inscriptions," C. M. Bowra; "Horace and Pacuvius," H. J. Rose.

In *The Classical Review*, xl, appeared "Aristophanes and Æschylus," M. P. Charlesworth; "Notes on the ΑΘΗΝΑΙΩΝ ΠΟΛΙΤΕΙΑ (*continued*)," A. W. Gomme; "The *Electra* of Euripides," E. T. England; "The Art of Plato," Dorothy Tarrant.

Part II of the revision of Liddell and Scott, *Greek-English Lexicon* appeared. The revision had progressed as far as the word *διαλέγω*.

There is space to mention, in conclusion, only

a very few of the many books that have come to the writer's attention. Since it is, in general, clear to which field of classical philology each work belongs, the books are listed in the alphabetical order of their authors' names. In a very few instances a needed word of comment is added: G. F. Abbott, *Thucydides: A Study in Historical Reality*; F. G. Allinson, *Lucian, Satirist and Artist*; C. Bailey, *The Mind of Rome, and Epicurus, The Extant Remains, with Short Critical Apparatus, Translation, and Notes*; N. H. Baynes, *The Byzantine Empire*; N. Baynes, *The Historia Augusta, Its Date and Purpose*; E. Bell, *Prehellenic Architecture in the Aegean*; K. J. Beloch, *Römische Geschichte bis zum Beginn des Punischen Krieges*; O. Bernhard, *Griechische und Römische Münzbilder in ihren Beziehungen zur Geschichte der Medizin*; H. Berve, *Das Alexanderreich auf Prosopographischen Grundlage*, 2 volumes; Th. Birt, *Alexander der Grosse und das Weltgriechentum*; G. M. Bolling, *The External Evidence for Interpolation in Homer*; G. Busolt, *Griechische Staats und Rechtsaltertümer*, third edition, part 2, prepared by H. Swoboda; *Cambridge Ancient History*, volume iv, dealing with "the Persian Empire and the West"; V. Capocci, La "Constitutio" Antoniniana described as "one of the most complete studies of the famous law of Caracalla"; P. W. Cartellieri, *Die Römischen Alpenstrassen über den Brenner, Reschen-Scheideck und Plöcken = Pass mit ihre Nebenlinien*; S. Casson, *Macedonia, Thrace and Illyria—Their Relations to Greece from the Earliest Times Down to the Time of Philip, Son of Amyntas*; M. P. Charlesworth, *Trade Routes and Commerce of the Roman Empire*, second edition; F. H. Colson, *The Week: An Essay on the Origin and Development of the Seven-Day Cycle*; G. Contenau, *La Civilisation Phénicienne*; A. B. Cook, *Zeus, A Study in Ancient Religion*, vol. ii, dealing with "Zeus, God of the Dark Sky (Thunder and Lightning)"; P. Couissin, *Les Armes Romaines: Essai sur les Origines et l'Évolution des Armes Individuelles du Légionnaire Romain*; H. Dessau, *Geschichte der Römischen Kaiserzeit*, vol. ii, part 1, dealing with "Die Kaiser von Tiberius bis Vitellius"; Sir Samuel Dill, *Roman Society in Gaul in the Merovingian Age*; A. von Domaszewski, *Die Phalangen Alexanders und Cäsars Legionen*; M. L. D'Ooge, *Nicomachus of Gerasa, Introduction to Arithmetic, Translated*; D. L. Drew, *Oulex—Sources and Their Bearing on the Problem of Authorship*; Sir Arthur Evans, *The Early Nilotic, Libyan, and Egyptian Relations with Minoan Crete*; L. R. Farnell, *The Attributes of God*; A. FitzGerald, *The Letters of Synesius of Cyrene, Translated into English, with Introduction and Notes*; E. Foord, *The Last Age of Roman Britain*; Sir James G. Fraser, *The Worship of Nature*, vol. i; Kathleen Freeman, *The Life and Work of Solon, With a Translation of his Poems*; P. Gardner, *New Chapters in Greek Art*; J. Geffcken, *Griechische Literaturgeschichte, Erster Band, Von den Anfängen bis auf die Sophistenzeit*; G. Glotz, *Ancient Greece at Work* (a translation, from the French, by M. R. Dobie, of a very important work); G. Glotz, *Histoire Grecque, Tome Premier: Des Origines aux Guerres Médiques*; E. Goldmann, *Die Duennos-Inschrift*; A. Grenier, *Le Génie Romain dans la Religion, la Pensée, et l'Art*; S. W. Grose, *Catalogue of the McClean Collection of Greek*

*Coins <in the Fitzwilliam Museum>*, vol. ii; G. B. Grundy, *A History of the Greek and Roman World*; A. Gwynn, *Roman Education from Cicero to Quintilian*; W. R. Halliday, *The Pagan Background of Early Christianity*; J. P. Harland, *Prehistoric Aigina*; I. L. Heiberg, *Geschichte der Mathematik und der Naturwissenschaften im Altertum*; J. B. Hofmann, *Lateinische Umgangssprache*; G. Home, *Roman London: A History of London During the Roman Period*; L. Homo, *L'Empire Romain*; W. W. How, *Cicero, Select Letters, With Historical Notes, Introductions, and Appendices* (two volumes); T. Hudson-Williams, *Early Greek Elegy: The Elegiac Fragments . . . , Edited with Introduction, Text, Critical Notes, and Commentary*; O. Kern, *Die Religion der Griechen, Erster Band: Von den Anfängen bis Hesiod*; A. Köster, *Die Griechischen Terrakotten*; W. Kroll, *Historia Alexandri Magni*, vol. i; R. H. Murray, *The History of Political Science from Plato to the Present Day*; M. P. Nilsson, *Imperial Rome*, translated by G. C. Richards (the work deals with "Men and Events" and with "The Empire and its Inhabitants"); B. Olsson, *Papyrusbriefe aus der Frühesten Römerzeit*; W. Otto, *Kulturgeschichte des Altertums*; E. Pfufl, *Masterpieces of Greek Drawing and Painting* (a translation, by J. D. Beazley); O. Plasberg, *Cicero in Seinen Werken und Briefen*; F. Poland, E. Reisinger, and R. Wagner, *The Culture of Ancient Greece and Rome: A General Sketch* (a translation from the German, by J. H. Freese); Byron Khun de Prorok, *Digging for Lost African Gods*; Th. Reinach, *La Musique Grecque*; B. Reynolds, *The Vigiles of Imperial Rome*; Gisela M. A. Richter, *Ancient Furniture, Greek, Etruscan and Roman*; G. T. Rivoira, *Roman Architecture and its Principles of Construction under the Empire* (translated from the Italian by G. Mc N. Rushforth); H. J. Rose, *Primitive Culture in Greece, and Primitive Culture in Italy*; M. Rostovtzeff, *The Social and Economic History of the Roman Empire, and A History of the Ancient World*, vol. i, *The Orient and Greece*; W. Schubart, *Palaeographie: Erster Teil, Geschichte der Palaeographie*; A. Schulten, *Sertorius*; W. Scott, *Hermetica*, vol. iii; Emily L. Shields, *Juno, A Study in Early Roman Religion*; P. M. Schisas, *Offenses Against the State in Roman Law, and the Courts Which Were Competent to Take Cognizance of Them*; Stolz-Schmalz, *Lateinische Grammatik*, fifth edition, by M. Leumann and J. B. Hofmann, I. *Lieferung, Einführung, Laut- und Formenlehre*; A. E. Taylor, *Platonism and Its Influence*; Mrs. E. D. Van Buren, *Greek Fictile Revetments*; R. von Pöhlmann, *Geschichte der Sozialen Frage und des Sozialismus in der Antiken Welt*, third edition, by F. Oertel (two volumes); H. B. Walters, *Catalogue of the Engraved Gems and Cameos, Greek, Etruscan, and Roman, in the British Museum*, revised edition; Tatiana Warscher, *Pompeji: Ein Führer durch die Ruinen*; E. Weiss, *Griechisches Privatrecht auf Rechtsvergleichender Grundlage, I. Allgemeine Lehren*; W. L. Westermann and C. J. Kraemer, Jr., *Greek Papyri in the Library of Cornell University*; R. E. M. Wheeler, *Prehistoric and Roman Wales*; Th. Zielinski, *La Religion de la Grèce Antique*.

**PHILOLOGY, MODERN.** As a consequence of the rapid progress which the study of philology has been making in the United States during

the past 25 years, American scholars were seeking more than ever before to consolidate their efforts, and with that end in view are founding learned societies whose primary aim is the promotion of research. Thus, the Linguistic Society of America, which began its career in 1925, had become recognized as the authoritative body in America in all matters pertaining to general philological investigation. The official review of the Linguistic Society, *Language*, which in 1926 had completed its second year, had done much, by the high standard of its contributions, to promote research, while the series of monographs instituted by the Society afford an outlet for studies of greater length and more technical character.

In January, 1926, there was founded under the auspices of Harvard University the Medieval Academy of America whose aim, as stated in its constitution, is "to conduct, encourage, promote and support research, publication and instruction in mediæval records, literature, languages, arts, archaeology, history, philosophy, science, life and all other aspects of mediæval civilization by publications, by research and by such other means as may be desirable, and to hold property for such purpose." This new Academy elected the following officers: President, E. K. Rand, Harvard; first vice-president, J. M. Manly, Chicago; second vice-president, C. H. Haskins, Harvard; third vice-president, J. F. Willard, Colorado; treasurer, J. N. Brown; executive secretary, J. Marshall; clerk, R. A. Cram; members of council, P. S. Allen, Chicago; G. H. Gerould, Princeton; A. K. Porter, Harvard; J. S. P. Tatlock, Harvard; C. H. Beeson, Chicago; L. J. Paetow, California; W. W. Rockwell, Union Theological Seminary; J. W. Thompson, Chicago; G. R. Coffman, Boston; G. A. Plimpton, Boston; J. H. Ryan, Catholic University; and K. Young, Yale.

One of the first acts of the academy was to begin publication of a quarterly review under the title of *Speculum*; it is edited by E. K. Rand and F. P. Magoun, Jr., both of Harvard. Unfortunately, the scholarship of the contributions to *Speculum* cannot be said to reflect high credit on the academy. It is to be hoped, therefore, that this learned body will show hereafter greater democracy of spirit by introducing new methods and ideas that may be indicative of progress.

Chancellor Thomas E. Benner of the University of Porto Rico during the year placed the department of Spanish studies of that institution under the supervision of Prof. Federico de Onís of Columbia University. Educated at the University of Madrid and later professor of Spanish literature at the University of Salamanca, Professor de Onís has, since assuming the professorship of Spanish literature at Columbia University in 1916, become thoroughly imbued with American traditions and methods.

Chancellor Benner named as honorary directors of the department of Spanish studies in the University of Porto Rico, Professors Ramón Menéndez Pidal, president of the Spanish Royal Academy and Director of the Centro de Estudios Históricos of Madrid; Tomás Navarro Tomás, director of the phonetic laboratory of the Centro, and John L. Gerig, executive officer of the department of Romance languages of Columbia University. Among the visiting professors for the academic year 1927-8 were to be Professors

Navarro Tomás and Alonso of Madrid and de Onís of Columbia University. The professors and lecturers of the regular staff include the leading scholars and men of letters of Porto Rico. American teachers and students have, therefore, the unusual opportunity of studying for higher degrees in Spanish in an American university whose atmosphere and environment are entirely Spanish and in whose faculty are numbered leading scholars in the realm of Spanish letters.

GENERAL. While human geography has been studied for many years in Europe, it was only beginning to receive, in the United States, the attention which it deserved. P. Vidal de la Blache, the great French savant who died in 1918, outlined for himself a gigantic plan according to which he was to make a survey of all the peoples of the earth "in which," says a reviewer in the *New York Times Book Review* (December 26, p. 7) "many sciences besides geography were to play their parts, from the study of the earliest distribution of mankind about the earth to that of currents of commerce by land and sea in the present day." Though de la Blache was unable to fulfill his truly magnificent plan, the papers he left in a complete state have been published by E. de Martonne and have been translated by Millicent T. Bingham, with the title, *Principles of Human Geography* (New York). V. G. Childe, *The Aryans* (New York) presents anew the eternally perplexing question of Indo-European origins. It may be observed, however, that there is a very long way from the fanciful and poetic theories of Pictet and Max Müller—so popular in the eighties of the 19th century—to the scientific deductions of contemporary scholars. E. Pittard, *Race and History* (New York), translated by V. C. C. Collum, contains an excellent ethnographical introduction to history, from which modern critics of historical method, such as Sir J. Fortescue in his essay on *The Writing of History* (New York), might derive some profit.

A very unusual work is C. Callet, *Le Mystère du Langage* (Paris), wherein the author attempts to analyze the primitive sounds into onomatopoeic sounds characterized by their sonorousness, such as *mew, ma, mo, mov*, hissing sounds, and growled sounds, as *rre, ke, gre, gny* and *ny*. H. Schuchardt, *Primitivæ Lingvæ Vasconum* (Halle) is an excellent introduction into the study of Basque, a European language whose ancestor is as yet unknown. A. R. Nykl, *The Quinary-Vigesimal System of Counting in Europe, Asia and America* is an interesting study published in *Language* (Menasha, Wis., II, 166-173).

A very useful guide for students is contained in R. G. Kent and E. H. Sturtevant, *Survey of Linguistic Studies* (Baltimore), which lists the opportunities for advanced work in linguistics in the universities of the United States.

INDO-IRANIAN. Contributions to this subject include A. B. Keith, *The Religion and Philosophy of the Veda and Upanishads* (Cambridge, Mass., 2 vols.), which contains an excellent investigation into the philosophy of this period; Vatsyayana, *Kama Sutra* (Paris); C. A. Kincaid and R. B. D. B. Parasius, *History of the Maratha People* (New York, vol. iii), which extends from the death of Shahu to the end of the Chitpavan epic; P. Singh, *The Spirit of Oriental Poetry*

(New York), a new volume in Trübner's Oriental Series; Clarisse Bader, *Women in Ancient India* (New York), translated by Mary E. R. Martin for the same series; N. C. Mehta, *Studies in Indian Painting* (Bombay), extending from the beginning of the seventh century to about 1870; J. B. Bury, S. A. Cook and F. E. Adcock, *The Persian Empire and the West* (New York), being the fourth volume of the Cambridge Ancient History; J. D. C. Pavry, *The Zoroastrian Doctrine of a Future Life* (New York), a doctoral dissertation, Columbia University; C. Antiran, *Sumérien et Indo-européen* (Paris), which deals with the morphological aspect of the question; and L. A. Waddell, *The Indo-Sumerian Seals* (London), according to which the Sumerians of the Indus Valley were Phœnicians, Barats, Goths and Vedic Aryans.

**CELTIC.** The trustees of the British Museum have at last undertaken to publish the invaluable *Catalogue of Irish Manuscripts in the British Museum* (London), of which the first volume was prepared by S. H. O'Grady and the second by R. Flower. This extensive work should prove an indispensable tool for all Celtists. J. J. Walsh, *The World's Debt to the Irish* (Boston) is overstated. Other works dealing with various periods of Irish literature include the Rev. C. Plummer's *On the Colophons and Marginalia of Irish Scribes* (New York), printed in the *Proceedings* of the British Academy; M. V. Ronan, *The Reformation in Dublin* (New York), containing a history of the period from 1536 to 1558, gathered from original sources; A. Young, *A Tour in Ireland* (New York), presenting his observations on the state of that country made in 1776-78; S. Téry, *L'Ile des Bardes* (Paris), with notes on contemporary Irish literature; and W. M. Letts, *More Songs from Leinster* (Paris), being a collection of Irish poems. Among contributions to the study of Welsh are the seventh volume of *An Inventory of the Ancient Monuments in Wales and Monmouthshire* (London), which concerns the county of Pembroke; and B. K. Ray, *The Character of Gawain* (New York), originally published by the University of Dacca. *Scottish Gaelic Studies* is the title of a new periodical issued from the Celtic department of the University of Aberdeen and edited by John Macdonald. It is interesting to note that though the scope of the review embraces "research in all branches of Celtic study connected with Scotland, prominent attention will be given to the investigation of modern Scottish Gaelic," especially to the dialects "which are so important for the study of the history of the language."

**SLAVIC.** *Selected Russian Short Stories* (New York), translated by A. E. Chamot, contains examples from the work of 10 different writers, from Pushkin to Andréev; while Czech literature which, suppressed for 200 years, began to revive in the early part of the nineteenth century, is represented by *Selected Czech Tales* (New York), being a volume of nine stories translated by Marie Busch and O. Pick.

**ENGLISH.** As indicated heretofore, the radio is rendering the standardization of English pronunciation increasingly imperative. Thus, on Dec. 11, 1928, the Advisory Committee on Spoken English, which includes G. B. Shaw, Sir J. Forbes-Robertson and Robert Bridges, issued a new list of officially sanctioned pronunciations. The *New York Times*, in an editorial, com-

mented on the necessity of a uniform pronunciation for American broadcasters as well. *The Year's Work in English Studies, 1924* (London), edited by F. S. Boas and C. H. Herford, contains a comprehensive survey of investigations in the English language and literature. C. S. Northrup, *Register of Bibliographies of the English Language and Literature* (New Haven, Conn.) includes also contributions by J. Q. Adams and A. Keogh. J. Wright and E. M. Wright, *Old English Grammar* (London) appeared in a third revised edition. H. W. Fowler, *Dictionary of Modern English Usage* (London) contains not only words but phrases alphabetically arranged. O. Barfield, *History in English Words* (New York) reveals the story of the development of ideas in Anglo-Saxon history as shown by a study of words and their uses. Other works along the same lines include E. Weekley, *Words Ancient and Modern* (New York); P. O. Landon, *A Compendium of Compound Words* (Des Moines, Ia.), containing also a list of troublesome terminations; H. J. Walther, *Correct English* (New York) with an alphabetical list of slips of tongue and pen; and *Academy Papers* (New York), a collection of essays on the English language by members of the American Academy of Arts and Letters.

English phonetics and kindred subjects are studied in T. Nicklin, *Standard English Pronunciation* (London); W. H. P. Phye, *18,000 Words Often Mispronounced* (New York); and G. Greever and J. M. Bachelor, *The Century Vocabulary Word-Book* (New York), a textbook on the use of words. The Society of Pure English issued the following tracts during the year: No. XXII, *The Nature of Human Speech*, by Sir R. Paget; No. XXIII, *English Handwriting*, by R. Fry and E. A. Lowe; and No. XXIV, *Notes on Relative Clauses*, by O. Jespersen, with also a dictionary of American slang by F. N. Scott.

Useful dictionaries included March's *Thesaurus Dictionary* (Philadelphia), a fourth edition of a work first issued in 1903; *Pitman's Book of Synonyms and Antonyms* (New York); H. Higgs, *Palgrave's Dictionary of Political Economy* (New York), 3 vols.; M. W. Jacobus, E. E. Nourse and A. C. Zenos, *New Standard Bible Dictionary* (New York); and G. H. Maines and B. Grant, *Wise Crack Dictionary* (New York), containing more than 1000 words and phrases. R. C. Borden and A. C. Russell, *Speech Correction* (New York) deals with the major forms of defective speech.

Collections of proverbs and quotations are found in *Putnam's Complete Book of Quotations, Proverbs and Household Words* (New York), edited by W. G. Benham; J. G. Lawson, *The World's Best Proverbs and Maxims* (New York); and Mrs. C. Smith, *History's Most Famous Words* (Boston).

Special studies comprise E. G. Millar, *English Illuminated Manuscripts, from the tenth to the thirteenth century* (Paris); O. Elton, *Essays and Studies by Members of the English Association* (New York, vol. x), treating mainly of Anglo-Saxon poetry; *Beowulf* (London), translated into modern English verse by A. Strong; A. Brunsdorff, *The Chaucer Tradition* (London); J. M. Manly, *Some New Light on Chaucer* (New York), eight lectures delivered at the Lowell Institute; D. D. Griffith, *Bibliography of Chaucer, 1908-1924* (Seattle, Wash.); H.

Eicker, *Die Historische Volksballade der Engländer und Schotten* (Leipzig); B. P. Kurtz, *From St. Anthony to St. Guthlac* (Berkeley, Calif.), a study in biography; B. Jarrett, *Social Theories of the Middle Ages* (Boston); A. P. Newton, *Travel and Travelers of the Middle Ages* (New York); R. L. Poole, *Chronicles and Annals* (New York), a brief outline of their origin and growth; T. F. Crane, *Liber de Miraculis Sanctae Dei Genetricis Mariae* (New York); *Wine, Women and Song* (New York), mediæval Latin students' songs translated by J. A. Symonds; M. De Wulf, *History of Mediæval Philosophy* (New York), of which the first volume goes as far as Albert the Great; G. G. Coulton, *Mediæval Village* (Cambridge); J. M. Clark, *The Abbey of St. Gall* (Cambridge); R. H. Snape, *English Monastic Finances in the Later Middle Ages* (Cambridge); G. R. Owst, *Preaching in Mediæval England* (Cambridge); D. H. S. Crane, *The House of the Monk* (Cambridge); L. F. Salzman, *English Life in the Middle Ages* (Oxford); W. D'Aygaliers, *Ruysbroeck the Admirable* (New York), a study of the Flemish mystic, translated by F. Rothwell; P. S. and H. M. Allen, *Opus Epistolarum Des. Erasmi Roterodami* (New York, vol. 6), containing his correspondence from 1525 to 1527; P. S. Allen, *Erasmus' Services to Learning* (New York); M. P. Tilley, *Elizabethan Proverb Lore in Lyly's "Euphues" and in Pettie's "Petite Pallace," with Parallels from Shakespeare* (New York); G. F. Bradby, *About Shakespeare and His Plays* (New York); A. Gray, *A Chapter of the Early Life of Shakespeare* (Cambridge); H. Granville Barker, *From Henry V to Hamlet* (New York); E. K. Chambers, *Shakespeare: a Survey* (New York), a collection of essays; and Gwendolen Murphy, *A Cabinet of Characters* (New York), including examples from Theophrastus and Pope Innocent III to Thackeray and Galsworthy.

GERMAN. A most welcome addition to Germanic periodicals is the *Germanic Review*, founded recently by the Germanic Department of Columbia University, and edited by R. H. Fife, F. W. J. Heuser and A. F. J. Remy. The high standard maintained by the articles published insures a good future for the review. H. Hirt, *Geschichte der deutschen Sprache* (Munich) appeared in a second edition. Studies devoted to different periods of German literature include G. W. S. Friedrichsen, *The Gothic Version of the Gospels* (New York); H. de Boor, *Frühmittelhochdeutsche Studien* (Halle); F. Rostock, *Mittelhochdeutsche Dichterheldensage* (Halle); and H. Jellinghaus, *Geschichte der mittelniederdeutschen Literatur* (Berlin, 3rd ed.).

Among recent dictionaries are E. Ochs, *Badisches Wörterbuch* (Lahr), of which the first part (*A-Auffangen*) appeared; J. Müller, *Rheinisches Wörterbuch* (Bonn), now in the letter B; O. Mensing, *Schleswig-Holsteinisches Wörterbuch* (Neumünster), also in the letter B; W. Sturmels, *Etymologisches Lexikon deutscher und fremdländischer Ortsnamen* (Berlin); and H. C. G. Brandt, *German-English Dictionary* (New York).

Special studies include A. Heintze, *Die deutschen Familiennamen* (Halle), the sixth edition, by P. Cascorbi; L. Jutz, *Die Mundart von Südvorarlberg und Liechtenstein* (Heidelberg); J. Feldmann, *Ortsnamen* (Halle); L. A. W. Loughby, *The Classical Age of German Literature*

(New York); P. C. Weber, *America in Imaginative German Literature in the First Half of the Nineteenth Century* (New York), a Columbia dissertation; and *Studies in German Literature* (Madison, Wis.) in honor of A. R. Hohlfeld by his colleagues of the University of Wisconsin. An excellent bibliography of American contributions to the study of German language and literature is F. W. J. Heuser, *Germanisches Schrifttum Amerikas 1925*, which appeared in the *Literarisches Zentralblatt für Deutschland* (cols. 1567-1584).

SCANDINAVIAN. *The Oxford Book of Scandinavian Verse* (New York) edited by E. Gosse and W. A. Craigie, contains a representative selection of poems extending from the eighteenth to the twentieth century. Other works include H. W. Mabie, *Norse Stories* (New York); and the first volume of *Studies and Records* (Minneapolis, Minn.), dealing with Norwegian immigration to the United States and published by the Norwegian-American Historical Association.

ROMANCE, GENERAL. An excellent survey of *Romance Linguistics in 1925* is that of Pauline Taylor, published in the *Romantic Review* (pp. 175-188). The list includes books, articles and book reviews and is subdivided as follows: General; Vulgar and Mediæval Latin; Phonology; Syntax; Etymology, Vocabulary and Style; Old French and Provençal; French; Spanish; Italian; Miscellaneous. A. Zauner, *Romanische Sprachwissenschaft* (Berlin) has appeared in a new edition.

FRENCH. C. Bally, *Le Langage et la vie* (Paris) is a very important work in which the author develops further preliminary ideas sketched in a general way in a work issued in 1913. Among the subjects he discusses are questions of general and stylistic linguistics, transmitted and acquired language, and the development of the mind. The seventh volume of F. Brunot's monumental *Histoire de la langue française* (Paris) is devoted to *La Propagation du français en France jusqu'à la fin de l'Ancien Régime*. Dictionaries of importance include E. Gamillscheg, *Französisches etymologisches Wörterbuch* (Heidelberg) of which the first *Lieferung* appeared; Lebrun and Toisoul, *Dictionnaire étymologique de la langue française* (Paris); and Tobler-Lommatsch, *Altfranzösisches Wörterbuch* (Berlin), which has now reached the end of the letter B.

In Old French we have K. Voretzsch, *Einführung in das Studium der altfranzösischen Literatur* (Halle), containing also an excellent introduction into the Old French language; F. Schür, *Das altfranzösische Epos zur Stilgeschichte und inneren Form der Gotik* (Munich); A. Hilka, *Rolandsmaterialien I, das altfranzösische Rolandslied nach der (Oxford) Handschrift* (Halle); A. J. Dickman, *Le Rôle du surnaturel dans les Chansons de Geste* (Iowa City, Ia.); L. Brandin, *Berthe au grand pied d'après deux romans en vers du XIII<sup>e</sup> siècle* (Paris); J. R. Reinhard, *Amadas et Ydoine* (Paris), a romance of the thirteenth century; K. Glaeser, *Altfranzösisches Lesebuch des späteren Mittelalters* (Halle); K. Heisig, *Studien zur Chanson de la Croisade contre les Albigeois* (Breslau); E. Vinaver, *Études sur le Tristan en prose* (Paris); the same author's *Le Roman de Tristan et Iseult* (Paris); Anna J. Cooper, *La Pèlerinage de Charlemagne* (Paris), with an introduction by Abbé F. Klein; J. Morawski, *Proverbes français*

antérieurs au XVe siècle (Paris); K. Warnke, *Vier Lais der Marie de France* (Halle); the same author's *Aus dem Esope der Marie de France* (Halle), a collection of thirty pieces; G. Rohlf, *Sechs altfranzösische Fabeln* (Halle); E. Champion, *Le Sire de Beaumanoir* (Paris), inedited letters of Gaston Paris and Henri Bordier; C. G. S. Bland, *The Autobiography of Guibert de Nogent* (Paris); H. Spinks *Eine altfranzösische Liedersammlung* (Halle); and V. L. Dedecq, *Etude littéraire et linguistique de Li Hystore de Julius César de Jehan de Tuim* (Philadelphia).

Later periods of French literature are represented by P. G. C. Campbell, *L'Épître d'Othéa, Étude sur les sources de Christine de Pisan* (Paris); J. Delteil, *Joan of Arc* (New York), translated by M. Cowley; L. Denis, *The Mystery of Joan of Arc* (New York) translated by A. Conan Doyle; *The Complete Poems of François Villon* (New York), translated by J. H. Lepper; Antoine de la Sale, *The Fifteen Joys of Marriage* (New York), translated by R. Aldington; L. Cons, *L'Auteur de la Farce de Pathelin* (Princeton, N. J.), the seventeenth volume in the Elliott Monographs series, edited by E. C. Armstrong; R. C. Williams, *The Merveilles in the Epic* (Paris); N. H. Clement, *The Influence of the Arthurian Romances on the Five Books of Rabelais* (Berkeley, Calif.); A. Huguenot *Family in the Sixteenth Century* (New York), a translation of Philippe de Mornay's *Mémoires* by Lucy Crump; F. L. Schoell, *Études sur l'humanisme continental en Angleterre à la fin de la Renaissance* (Paris) a splendid work devoted to the influence of M. Ficinus, L. Gyraldus, N. Comes, D. Erasmus, G. Xylander, H. Wolfius, H. Stephanus, and J. Spondanus; N. Serban, *Les Comédies de Corneille* (Jassy, Roumania); M. Kapp, *Die Frauengestalten in Molières Werken* (Halle); L. Roth, *Correspondence of Descartes and Constantyn Huygens, 1635-1647* (New York), edited from manuscripts in the Bibliothèque Nationale; D. Mornet, *La Pensée Française au XVIIIe siècle* (Paris), a very important work; I. O. Wade, *The "Philosophe" in the French Drama of the Eighteenth Century* (Princeton, N. J.), the eighteenth volume of the Elliott Monographs series; *Maxims and Considerations of Chamfort* (Berkshire, Eng.), translated by E. P. Mathers; Margaret Gilman, *Othello in French* (Paris); M. B. Garrett, *The Controversy over the Composition of the States General, Nov. 6-25, 1788* (Birmingham, Ala.), a volume in the Howard College Studies; the same author's *Critical Bibliography of the Pamphlet Literature Published in France between July 5 and Dec. 27, 1788* (Birmingham, Ala.); Charlemagne Tower, *The Marquis de la Fayette in the American Revolution* (Philadelphia, 2 vols.); and J. Marsan, *Le Conservateur Littéraire, 1819-1821* (Paris), the second part of the critical edition.

Special studies on vocabulary, syntax, dialects, etc. include P. Desfenilles, *Dictionnaire de rimes* (Paris); M. Frey, *Les transformations du Vocabulaire Français (1789-1800)* (Paris); H. Lapaire, *Le Patois berrichon* (Paris); B. Henderson and C. Calvert, *Wonder Tales of Alsace-Lorraine* (New York); and G. Esnault, *L'Imagination populaire* (Paris) containing an essay on the French spoken in Basse-Bretagne compared with dialects of Paris.

Finally, two new reviews deserving mention

are *Annales de L'Université de Paris* (Paris) of which the first volume appeared; and *Sep-timanie* (Narbonne), an excellent provincial literary review edited by P. Castéla.

ITALIAN. The Italian House, which is to serve as the headquarters of the Institute of Italian Culture in the United States, was nearing completion on the campus of Columbia University. Among other activities it will house a library of 15,000 volumes devoted to contemporary Italy, the donation of Dr. Charles Paterno, of New York.

The *Breviario di neolinguistica* (Modena) contains in its first part *Principi generali* by G. Bertoni, and in its second part *Criteri tecnici* by M. G. Bertoli. Other works include S. Frascino, *Testi italiani antichi* (Halle); M. Asin, *Islam and the Divine Comedy* (New York); A. H. Guilbert, *Dante's Conception of Justice* (Durham, N. C.); E. H. R. Tatham, *Francesco Petrarca* (London), the second volume of a new biography; G. Zaccagnini, *La vita dei maestri e degli scolari nello studio di Bologna nei secoli XIII e XIV* (Bologna); A. Mortier, *Un dramaturge populaire de la Renaissance italienne, Ruzzante (1502-1542)* (Paris); M. Ferrara, *Per la storia del Proverbio nel Secolo XVI* (Lucca) devoted to Fra Benedetto da Firenze and his *Divisio proverbiosa*; V. Ulargiu, *Fonologia Sarda logudorese e campidanese* (Palermo); F. Còcola, *Vocabolario dialettale biscegliese-italiano* (Trani); and Fedro, *Le favole, tradotte in dialetto bresciano* (Brescia), a translation by G. B. Bordogna.

PORTUGUESE. A. F. G. Bell, *Oxford Book of Portuguese Verse* (Oxford) extends from the twelfth to the twentieth century. F. de Figueiredo; "Camões as an Epic Poet" is an interesting contribution to the *Romania Review* (New York). On Brazil we have R. Nash, *The Conquest of Brazil* (New York); Elsie S. Eells, *The Brazilian Fairy Book* (New York); and E. Belfort de Magalhães, *A Educação popular no Brazil* (Bahia), a contribution to the study of education in Brazil. Two new reviews of importance are *Portugalia* (Lisbon), edited by F. de Figueiredo, and devoted to culture and literature; and *Bíblas* (Coimbra), a bibliographical review edited by the faculty of letters of the University of Coimbra.

PROVENÇAL AND CATALAN. The recent purchase by Columbia University of a manuscript bibliography of Provençal literature by E. Lefèvre, in thirty-six volumes, as well as the acquisition last year by the same institution of 300 autographed volumes by modern Félibres, form valuable additions to the Provençal material in the United States. Works of importance are R. de Loi, *Trails of the Troubadours* (New York); H. B. Breuer, *Jauffre, ein Altprovenzalischer Abenteuerroman des XIII Jahrhunderts* (Göttingen); A. Kolsen, *Trobadorgedichte* (Halle); K. Lewent, *Bruchstücke des provenzalischen verseromans Flamenca* (Halle); C. Appel, *Bernart von Ventadorn* (Halle); and A. Wuttke, *Die Beziehungen des Félibrige zu den Trobadours* (Halle).

On Catalan we have W. Meyer-Lübke, *Das Katalanische* (Heidelberg), treating its relations to Spanish and Provençal.

RUMANIAN. As a consequence of the visit of 28 Rumanian intellectuals to the United States in August, an Institute of Rumanian Culture was founded at Columbia University. Important

works of the year include A. Babel, *La Bessarabie* (Paris), an economic, ethnographical and historical study; N. Iorga, *History of Rumania* (New York), translated by J. McCabe; L. Feraru, "Development of the Rumanian Novel," a contribution to the *Romanic Review* (New York); the same author's *Maghernița Veche* (Bucharest), a collection of poems on Rumanian life; *The Queen of Roumania's Fairy Book* (New York); J. B. Segall, *Roumanian Folk Tales* (Orono, Me.); and A. Scriban, *Gramatica limbii Românești* (Jassy), a Rumanian grammar.

**SPANISH.** The Instituto de las Españas in the United States issued a booklet giving a list of its accomplishments during the six years since its organization. They include the publication of 21 volumes and pamphlets, the organization of six annual lecture tours for official lecturers, six annual tours for teachers and students to Spain, the collection of 500 slides on Hispanic subjects, the affiliation of 194 clubs representing 28 states of the Union, the creation of a library of 500 volumes, etc.

Among the important contributions to the study of Spanish literature are R. Menéndez Pidal, *Flóresta de leyendas heroicas españolas* (Madrid) devoted to *Rodrigo, el último Godo*; the same author's *El Rey Rodrigo en la literatura* (Madrid); W. Giese, *Waffen nach der spanischen Literatur des 12 und 13. Jahrhunderts* (Hamburg); J. Ribera, *La música Andaluza en las Canciones de trovadores, troveros y minnesinger* (Madrid) of which the third fascículo appeared; Gonzalo de Berceo, *Los milagros de nuestra Señora, I* (Halle), edited by A. Hamel; S. G. Morley, *Spanish Ballad Problems* (Berkeley, Calif.), treating of the native historical themes; J. H. English, *The Alternation of H and F in Old Spanish* (New York), a publication of the Instituto de las Españas; J. P. R. Lyell, *Early Book Illustration in Spain* (London); P. Van Dyke, *Ignatius Loyola* (New York); W. Mulertt, *Studien zu den letzten Buchern des Amadisromans* (Halle); Cervantes, *The Ingenious Gentleman Don Quixote of La Mancha* (New York), a new edition of Ormsby's celebrated translation; Clara L. Penney, *Luis de Gongora y Argote (1561-1627)* (New York), a volume in the Peninsular Series of the Hispanic Society of America; W. L. Fichter, *El Castigo del Discreto* (New York), a study on a play of Lope de Vega, published by the Instituto de las Españas; Clara L. Penney, *Diary of Washington Irving, Spain, 1828-1829* (New York), another volume in the Peninsular Series of the Hispanic Society; Theophile Gautier, *A Romantic in Spain* (New York), translated by Catherine A. Phillips; C. Barja, *En Torno al Lirismo Gallego del Siglo XIX* (Northampton, Mass.), a publication in the Smith College Studies; J. Dornhof, *Johann N. Böhl von Faber, ein Vorkämpfer der Romantik in Spanien* (Hamburg); and W. Mulertt, *Azorin (José Martínez Ruiz)* (Halle).

Grammatical and other studies recommended are Nebrija, *Gramatica de la lengua castellana (Salamanca, 1492)* (London), edited by I. González-Llubera; R. K. Spaulding, *History and Syntax of the Progressive Constructions in Spanish* (Berkeley, Calif.); T. Navarro Tomás and A. M. Espinosa, *Primer of Spanish Pronunciation* (New York); C. F. Sparkman, *Games for Spanish Clubs* (New York), a volume in the series of the Instituto de las Españas; A. A.

Moll, *Spanish-English Medical Dictionary* (Chicago); G. M. Vergara, *Cuatro mil palabras no incluidas en el Diccionario de la real Academia Española* (Madrid); and J. Z. Cuevas, *Catálogo de los manuscritos castellanos de la Real Biblioteca de El Escorial* (Madrid).

Spanish-America is represented by W. R. Shepherd, *The Spanish Heritage in America* (New York), relating to Spanish influence in the United States; F. Ortiz, *Glosario de Afro-negrismos* (Habana); J. L. Perrier, *Bibliografía Dramática Cubana* (New York), including Porto Rico and Santo Domingo; Concha Meléndez, *Amado Nervo* (New York), a critical study of the great Mexican poet, published by the Instituto de las Españas; A. B. Ayres, *Mexican Architecture* (New York) domestic, civil and ecclesiastical; P. Henríquez Ureña, *El Supuesto Andalucismo de América* (Buenos Aires); M. Schneider, *La Colocación del Pronombre* (Buenos Aires); and R. Grossmann, *Das Ausländische Sprachgut im Spanischen des Río de la Plata* (Hamburg), a discussion of the problem of the Argentinian national language.

See FRENCH LITERATURE; GERMAN LITERATURE; LITERATURE, ENGLISH AND AMERICAN; SCANDINAVIAN LITERATURE; SPANISH LITERATURE.

**PHILOSOPHY.** The Sixth International Congress of Philosophy, which met at Harvard University, Sept. 13 to 17, 1926, afforded an extraordinary opportunity for evaluating the present trend of philosophy. The congress was the first to be held in America since the inception of these periodical convocations in connection with the 1900 Paris exposition, and while the vast majority of participating members came from the United States, there was a sufficient number of foreign delegates to insure not only an international tone for the deliberations but also the solemnity necessary for intellectual earnestness. For a detailed review of the proceedings of the congress the reader may consult the excellent account by Horace L. Friess in the *Journal of Philosophy* (vol. xxxiii, p. 617). Here it is sufficient to sketch in the high lights.

It seemed to many observers that there was everywhere a vague foreshadowing of an idealistic renaissance. The renaissance, it seemed, would not come soon, and perhaps not for many years, but none the less it was there as the guiding power behind the actual discussions. The truth of the matter is that present-day thought is dominated by natural science and by its twin brother, the industrial machine. The thinkers are beginning to be intellectually aware of this disastrous domination, without, however, being able to shake it off and without even quite understanding what is involved in this shaking-off process. These remarks apply, of course, to all countries, but with increased force to the United States, which as a country is the most modern and the most contemporary, so to speak, in contemporary civilization.

It is therefore significant that Professor Dewey should have made a plea, in his address on "The Role of Philosophy in the History of Civilization," for more speculative imagination, and for the breaking away from our "cowardly reliance on facts" the meaning of which we make little effort to discover. "Until this deficiency is remedied," he said, "our arts and our sciences, especially psychological and sociological, in spite of an enormous display of energy, will remain



relatively random, superficial, and uninfluential. The greatest need of our national culture is an awakening of courageous faith in the value of the speculative imagination, provided it is supplied with an adequate body of experience."

A similar judgment on American thought was made by Prof. Frank Thilly in his paper surveying the present status of the philosophical schools in the United States. Professor Thilly represents the old idealistic tradition, which is admittedly weak and without power for the moment, and his criticism of neo-realism, critical realism and pragmatism may be taken as a speech from the opposition bench. "It must not be forgotten," he said in his conclusion, "that we are living in the reign of Science and that popular monarchs are always feared and obeyed, be they theological, metaphysical, or positivistic. The new theories seek to make their peace with the new Science, and the terms offered by them have often been over-generous. But the enterprise has not been unprofitable, for, after all, the interest has centred upon the old fundamental questions, which have been honestly examined and discussed, often from new and suggestive angles. And in spite of the most painstaking efforts to explain consciousness away by dressing it in new clothes and giving it new names, it still remains as a fundamental problem. It is therefore impossible to ignore the so-called idealistic philosophy which has itself kept in intelligent touch with all the new movements and does not fail to appreciate the partial contributions which they have made."

While American thought—and, for that matter, the thought of other countries in which Science reigns as a vested potentate—is not yet ready for an integral, speculative idealism, the faith for such an idealism is there; and it becomes clearly evident when, instead of arguing detailed questions of epistemology, philosophers turn to a general consideration of their work and its place in the life of men. This idealistic faith in the unity of the spirit was manifested in the meeting on philosophy and international relations, and it was perhaps most clearly manifested in the address of Professor Montague at the closing banquet of the congress.

"I propose," said Professor Montague, "to set forth what is, I think, the great answer to the question of the use or usefulness of philosophy. The question itself is as old as Thrasymachus, and the answer that satisfies me is the answer of Plato. Philosophy is a vision, as religion is a faith. The faith of religion is that values are immortal in the realm of existence. The vision of philosophy is of values that are eternal in the life of the spirit. This, I believe, is the Platonic revelation. The forms of religion are many, but through all that are in any wise significant there runs the ancient and pathetic hope that existence is in reality better than it appears in our experience. And through the even more numerous forms of philosophy there is present in one sense or another the vision of a realm of values whose validity is independent of whether they are realized in existence or not. But, while independent of the changes of history, these Platonic ideals are the unmoved movers of whatever of goodness or beauty a history may achieve.

"Of what use to the world is this Platonic theory of values—a theory that is implicit in every genuine philosophy from the most conservative of idealisms to the most radical of the

pragmatisms? Its use, as I see it, is to prevent man from committing the sin against his own spirit, the unforgivable sin of subordinating the ideal to the real and accepting whatever is as therefore right.

"In all our lands to-day the spirit of Thrasymachus is rife. Discouraged at the failure to realize our ideals, there are those who deny that there are any ideals to realize. And we are proffered the old and shameful doctrine that conscience should bow down to the forces of government either 'red' or 'white.' Philosophy and the spirit of philosophy are then profoundly relevant to the present scene, for at no time have the peoples of the earth been in so great danger of losing that vision without which they perish—the Platonic vision of an eternal good, multiple in its aspects and applications, but single in its validity, subsisting quietly through all the vicissitudes of existence."

Professor Montague's conception of philosophic vision, it may be said, is far from being merely rhetorical, but the difficulty is that in practice it is taken as if it were mere rhetoric. In the explanation and interpretation of specific problems, such as the meaning of modern science, we tend too often to drop back into the method of system building. The papers on physics and metaphysics, as well as on the interpretation of biological evolution, all reflected an attempt to construct a sort of super-system which should be more adequate than the systems of the various sciences. Professor Whitehead's paper on "time" is typical of this tendency. Aware of the abstractness of the ordinary categories of physics—an abstractness made evident by the problem of relativity—the eminent philosopher of Harvard would like to construct the real, concrete kaleidoscope.

His construction, picturing time as "epochal" and "organic," brought this incisive comment from Professor Friess in his review of the congress (see *supra*): "The present writer . . . is considerably intrigued by Professor Whitehead's quaint terminology with its idealistic overtones. But the implications of these concepts, both from the point of view of rendering modern science intelligible and from the point of view of suggesting further construction, still remain very imperfectly clear to him. . . . Can it be because Professor Whitehead is using a logic of internal relations as a logic of exposition?"

For ourselves, we should go further and say that the problem of internal relations is that which laughs at logic. It has no logic of its own—unless we want to call the ineffable, inter-related spiritual unity of things a logic—but it is none the less the source of logic as well as that which exhibits the fallacy of any discursive system being taken as absolute.

The discussion on evolution would have bewildered the "man in the street," who is accustomed to regarding the doctrine as "a scientific fact." A well established scientific theory it is, but it crosses the ordinary run of scientific theories, and thus renders it difficult to take any scientific theory as describing a real and ultimate state of fact. The ordinary theories of physical science have as their object a deterministic scheme of explanation, and for that reason they lend themselves to a materialistic interpretation, according to which the world of nature is a system of material particles reacting under an immutable scheme of laws.



On the other hand, the phenomena of biology suggest a theory of continuity or historic development of different types of being. In an attempt to coördinate these two sets of theories, there has developed in the last generation a school of metaphysicians believing in emergent evolution—that is to say, in a scheme of the universe where new and unpredictable qualities such as life and mind emerge out of the chance interaction of material atoms and molecules. The word "evolution" would have been enough to describe such a theory, had not the word been worn down by the attempt of the Darwinians to give a deterministic, or mechanistic, account of evolutionary change. The speakers on the topic assumed the general theory of emergence of new levels, but argued whether it implies the operation of final causes. Professors Lovejoy and W. M. Wheeler contended that it did not; Professor Driesch, the well known German vitalist, insisted that it was necessary to assume an entelechy in the biological realm, though not in the physical; while Prof. Wildon Carr defended the Bergsonian "creative" or spontaneous evolution. In contradistinction to all these papers was a paper by Prof. E. A. Burtt on "Real versus Abstract Evolution." He insisted that the whole doctrine of evolution was an abstract doctrine, a reconstruction of the past which must find its application in the immediate experience of the present.

Lack of space forbids much discussion of the sessions on the more specialized topics. However, mention should be made of the papers on Value. The term "value" denotes a relatively new philosophical topic or discipline, and is the result of the projection of ethical problems upon the screen of science. It is symptomatic of the same state of mind as is reflected in the attempts to construct rigorous scientific systems incorporating the problems that natural science has failed to handle. We should also mention in the same breath the papers on the philosophy of religion and mysticism. The papers reflected the tendency—we should almost say the vice—of taking religion and mysticism as objects of scientific curiosity, favorable or unfavorable. Three professors defended mysticism, while one professor claimed that by empirical tests mystics are shown to have less motor coördination and generally a lower I. Q.!

**PHILOSOPHICAL LITERATURE.** Fewer outstanding books were published in 1926 than in the previous year. The most noteworthy are Professor Whitehead's *Religion in the Making*, C. Lloyd Morgan's *Life, Mind and Spirit*, and Dean F. J. E. Woodbridge's *The Realm of Mind*. The first-named should be read in connection with *Science and the Modern World*, which was reviewed in the 1925 YEAR BOOK. In it Professor Whitehead continues his efforts to modernize and rationalize present-day thought. After formulating a suitable cosmological theory for modern physical science, he turns in this book to the cosmology back of religious experience. As he himself puts it, the aim of his book is "to direct attention to the foundation of religion on our apprehension of those permanent elements by reason of which there is a stable order in the world, permanent elements apart from which there could be no changing world." In short, the book may be said to express the rational religion of a mathematical physicist, with the added condition that

the mathematician has not altogether divested himself of his professional habits of thought. God is presented as a hypothesis or theory necessary to account for the creative manifestations all about us.

C. Lloyd Morgan's *Life, Mind and Spirit* is a companion volume to the same writer's *Emergent Evolution*, published some years previously. As stated above in the discussion of emergent evolution theories, the fundamental notion of this school is the existence of diverse levels, scientifically unexplainable in terms of the elements of a lower level. Thus, life is, for Professor Morgan, the synthetic unity of events in physical and physiological regard, and mind is a synthetic unity built up on life but superior to it. The hierarchy of levels is regarded as stages in the expression of divine purpose, and each higher stage is in turn supernatural to that which precedes it.

Neither Professor Morgan nor Prof. S. Alexander, who first expounded the metaphysics of emergent evolution in comprehensive style (see *Space, Time and Deity*, 1923), seems to want to follow through the full consequences of their attack on the universal determinism of physical laws. If they did so, they would find themselves—at least in the opinion of the writer—impeaching the absolute validity of their metaphysical systems.

Dean Woodbridge's *The Realm of Mind* also attempts to rule out the supernatural from metaphysics and make it entirely naturalistic. But the naturalism of Dean Woodbridge is not the "creative" type of the school of emergent evolution, but rather the naturalism of Aristotle, which regards thought as a natural but not materialistic process. "Instead of putting thinking outside nature or making nature its product," he writes in his preface, "I have tried to take thinking simply as a natural event and follow its lead, letting the consequences take care of themselves."

The consequences that Dean Woodbridge draws are these: In order to explain individual minds we have to fall back upon objective mind, or a system of logical relations in the world as a whole; this objective mind is the system of the physical; on the other hand, individual minds are derived from objective mind by a process of degradation through the agency of the body. As is evident, the difficulties in the system hinge on the ambiguous role assigned to matter. On the one hand, it is a support to objective, universal mind and is correlative with it, and on the other hand, matter—or at least the human body—is responsible for the degradation of impersonal objective thought into the halting thought that characterizes the many, individual minds. Had Dean Woodbridge identified his objective mind, not with the formal system of logical relations, but with the pure spirit, most of his difficulties would have been solved. But that would have meant identifying himself with idealism, and such a step he was unprepared to take. In fact, he specifically warns the reader not to take him for an idealist, despite the similarities with idealism in the initial phases of his doctrine—idealism has a terrible reputation among American philosophers of to-day, and to be branded as an idealist is held to be as bad as to be called a bolshevist in politics.

In England, however, Viscount Haldane has

written an interesting and excellent introduction to philosophy from the idealistic point of view, under the title, *Human Experience*. Unlike so much of the idealistic philosophy surviving in the United States, he does not attempt, in this book, to use philosophy to whitewash theological doctrines. Idealistic philosophy has always been in harmony with the spirit of religion, but this does not mean that it can afford to indorse the doctrines of theology as literal, metaphysical truths. "It is not," says Lord Haldane with regard to immortality, "by setting up a fresh picture of another bodily life at the end of this one, to be continued in space and time, that we reach or maintain this level. It is rather by making ours the higher significance of such metaphors as that life eternal consists in doing the will of our Father that is in Heaven. His Heaven is no other world. It is just this world comprehended and accepted as what it finally and really means."

Passing from the field of general philosophy to special topics, we should mention first of all Prof. R. B. Perry's comprehensive book on *Value*. As we said above in connection with the congress, the interest in value theory is a scientific and realistic expression of the old-time ethical preoccupations. Aesthetic and economic value problems are also brought into consideration in the attempt to develop a general value theory. The conclusion to which Professor Perry comes is in some respects rather curious: Values exist in the future and not in the present.

In political philosophy, the most noteworthy book is Professor Hocking's *Man and the State*. The book presents a plea for the state as incorporating the authority of the general will, and opposes such "pluralistic" and individualistic philosophies of politics as that of Laski and the radical groups. In line with this type of doctrine, but emphasizing the ethical side of man's relation to society, is Joseph A. Leighton's *The Individual and the Social Order*.

In the field of scholarship, the great book of the year is the publication by Prof. Leon Roth of the *Correspondence between Descartes and Constantyn Huygens*. The volume contains 93 unpublished letters, and throws new light on some of the intimate opinions of the great French philosopher.

**BIBLIOGRAPHY.** For the other books of the year the reader may consult the bibliography which follows herewith (arranged alphabetically according to surnames of authors): Adler, Felix (and others), *Fiftieth Anniversary of the Ethical Movement*; Aristotelian Society, *Proceedings, Supplementary vol. vi*, (The Validity of Belief in a Personal God); Baker, A. E., *How to Understand Philosophy*; Benrubi, Isaac, *Contemporary Thought of France*; Bixler, J. H., *Religion in the Philosophy of William James*; Dresser, H. W., *History of Ancient and Medieval Philosophy*; Durant, Will, *The Story of Philosophy*; Edman, Irwin, *Richard Kane Looks at Life*; Haldane, Viscount, *Human Experience*; Haldane, Viscount, *The Pathway to Reality*; Herrick, J. Judson, *Fatalism or Freedom*; Hocking, William Ernest, *Present Status of the Philosophy of Law and of Rights*; Hocking, William Ernest, *Man and the State*; Inge, W. R., *The Platonic Tradition in English Thought*; Jascalevich, A. A., *Three Conceptions of Mind*; Joad, C. E. M., *Introduction to Modern Phi-*

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**PHONETICS.** See PHILOLOGY, MODERN.

**PHOSPHATE ROCK.** During 1926 there continued to develop increased direct use of raw ground phosphate rock without acidulation for fertilizers and also the production of high grade superphosphate at the mines. The production of phosphate rock in 1925, as recorded by the U. S. Bureau of Mines, was 3,481,819 long tons, valued at \$11,545,678, this being the greatest amount produced since 1920 when the output was 4,103,982 tons, valued at \$25,079,572. In 1925 the imports of phosphate rock into the United States amounted to 2735 long tons, valued at \$37,932, but the exports were 870,200 tons, valued at \$5,677,763. In 1925 the average selling value per ton was \$3.32 and the quantity used was greater than the amount mined. Phosphate rock is produced principally in Florida and Tennessee, the former State, in 1925, having an output of 2,929,964 tons, valued at \$8,789,070. The Tennessee output in 1925 was 477,077 tons, valued at \$2,429,059. In 1925 Idaho and Wyoming shipped 72,631 tons, valued at \$319,498. In 1926 the exports of phosphate rock consisted of high grade hard rock to the amount of 103,572 tons, valued at \$1,195,729; land pebbles, 634,362 tons, valued at \$3,155,732; and other phosphate rock to the amount of 11,229 tons, valued at \$88,613. See FERTILIZERS.

**PHYSICS.** The year 1926 has seen spectacular events; its achievements may prove far more fundamental than those of any other year since the year of verification of Einstein's relativity theory. Panneth and Peters report the synthesis of helium from hydrogen by the use of palladium with the output of probably a quarter of a calorie of high-frequency radiant energy of the cosmic-ray type—probably the most sensational event of the year 1926, even though the amount produced was so small. The fact that it has been done must rank with the disintegration of atomic nuclei among the most important events of the present century. They both are vital parts of the programme of the physicists of vision—the utilization of the unlimited stores of cosmic energy and the transformation of matter, at will, into any form with any properties desired. In 1925, carbon was made to boil, in 1926 helium was solidified, so that the three states are practically attainable with every chemical element, for the first time.

If the most fundamental achievement of physics were to be selected, perhaps the new quantum mechanics is the great event of the year, including the concept of the spinning electron as completing the fourth degree of freedom in electron motions, and the fourth quantum number of the electron. If the present promise is maintained, the achievement must be ranked with Newton's laws. Keesom at Leiden has solidified helium at a temperature higher than that at which it was liquefied. The study of the space lattice will be awaited with interest, for it should be expected to be cubic as already shown for argon.

**NOBEL PRIZE IN PHYSICS.** The physicists to whom was awarded the Nobel prize in 1926 were Zsigmondy, Franck, Hertz, Svedberg, and Perrin—names most notable in the recent history of the study of the atom. Zsigmondy devised the ultramicroscope, extending our perceptive range far below the limits of visibility. Franck and Hertz gave the first proof of the quantum theory, while Franck blazed the new trail of ionization and resonance potentials, showing that a given wave length is emitted by a vacuum tube only when a definite voltage or critical electron speed is attained. Svedberg has done constructive fundamental work on colloids, that field which seems to be an aspect of all matter rather than a mere class of materials, for are not the planetary electrons a colloidal cloud held together by a central charge of opposite sign? Perrin stands for the remarkable work showing that Brownian particles acting as molecules would act on the kinetic theory, and for his recent work on the rôle of radiation in chemical reactions. In the course of the latter work he made the statement that light is essential to all chemical processes.

Gerlach's latest experiments on the magnetic moment of the silver atom per mol give 5400 to 5700—the Bohr magneton. The paths of the electrons probably arrange themselves so as to give as far as possible no resultant moment of momentum and no magnetic moment. The magnetic moment of nickel changes with due rise in temperature by one Bohr magneton. All paramagnetic ions of the iron and platinum groups show 9, 14, 19, 24, 29—larger units than the Weiss magneton, showing the Bohr magneton as the probable natural unit.

Bose computes the magneton numbers from electron distributions in the various quantum levels. Using complex compounds of Cr, Fe, Co, Ni, and Cu, he shows that the Bohr magneton of the central atom is given by the difference between its effective atomic number and the atomic number of the rare gas terminating the period to which the central atom belongs (in this case krypton). When this difference is zero the compound is diamagnetic. He suggests the specific distribution of the electrons in the M, N, and O quantum levels for the elements mentioned above, both as simple ions and as coördinating atoms in complex compounds. Scott publishes instructive graphs of atomic versus electronic volumes, and gives an illuminating discussion of the facts sharply disclosed by the graphs.

The periodic system of atoms is the battleground of research. Light waves and their measurement are incomparable in disclosing the energies and structures of the atoms. A wide-open field awaits the chemist in correlating

atomic structure and atomic form with the known behavior of the atoms and their combinations. This is already a field of astonishing fertility. Thirty methods of measuring or estimating the size of atoms and molecules are considered by Lunnon with fairly concordant results, as shown by graphs of the diameters, the periodicity of which is beautifully portrayed. The atomic nuclei receive much attention. Strum points out a connection between atomic weight and order of an element and nuclear components (electrons, protons, helium atoms, and alpha particles).

Sommerfeld shows the bearing of Stoner and Main Smith's modification of Bohr's scheme for the periodic system as affecting x-ray spectra. He gives two laws for the completion of sub-groups, recalling that the basic principle of chemical combination is the tendency to form completed sub-groups. A tetrahedral diamond structure is observed in binary compounds whose elements are removed an equal number of columns from column 4. The 2-electron shell is important in combination.

Harkins and Shadduck discuss the synthesis and disintegration of atoms as revealed by photographs of Wilson cloud-tracks. Photographs to the number of 34,000 (total atom paths exceeding 400,000) were made, showing alpha tracks in nitrogen. Two-thirds were 8.6 cm and the rest were 4.9 cm ranges. Fast alpha particles from thorium C attach themselves to nitrogen nuclei, forming fluorine momentarily. The ejection of a hydrogen atom then changes the atom to oxygen—the three tracks, fluorine, oxygen, and hydrogen, all lie in one plane. Results of astonishing interest were obtained by these and other experimenters. To catch the infinitesimal atomic nuclei on the wing with bullets moving 12,000 miles a second, and transmuting the elements by the impact, is surely a glimpse of a coming technique which will give a new power to man excelling any ever dreamed of by the alchemist.

Physics is taking possession of stellar evolution with incredible power. The reversible transformation of mass and energy call for considering the question of equilibrium between radiation and concentration of mass. Sterns had reported that even at a hundred million degrees only one electron per cc could be present at equilibrium. The sun's density (1.4 grams per cc and 40,000,000° temperature) seemed to necessitate recalculation of Sterns' figures. Tolman deduces an equation connecting concentration and temperature, containing a constant not evaluable from classic thermodynamics. Using the third law he deduces a value much higher than hitherto derived. Incidentally, 40,000,000° seems to be a reasonable estimate of the temperature inside a star.

Eddington estimates the density of interstellar matter at ten hydrogen atoms, or  $1.66 \times 10^{-23}$  gram per cc, as the upper limit. This gives a mean free path (assuming ions with average atomic weight 20) of  $10^8$  km with a year interval between collisions, and for electrons  $5.2 \times 10^8$  km with collision intervals of ten days. This gives a Maxwellian distribution. The blackbody temperature of a body in equilibrium with starlight is only 3.2° absolute. At 10,000° condensation of matter begins to form a nebula; rise in density and temperature drop cause high opacity to hold the heat formed;

at a certain stage the density becomes high enough to enable radiation from sub-atomic processes to be scattered, and this makes a further source of heat.

Jeans computes the cosmic radiation wave length as  $1.3 \times 10^{-5}$  angstrom when electron and proton cancel one another. The wave length is calculated by equating the sum of the mass energies of the proton and electron to the energy of the quantum produced. Jauncey and Hughes, in discussing the subject, take note of the conservation of energy, momentum, and charge, and that reversibility of the mass energy transformation might occur but that velocities do not exceed that of light.

Eddington assumes ten billion years as the age of the sun. Energy must come from the deep layers to keep the high temperature gradient. Mass is dissipated, possibly by the mutual destruction of a proton and an electron, or transmutation of the elements. The hydrogen helium reaction affords an almost inexhaustible supply of energy. Central temperatures are about  $40,000,000^\circ$ . The larger mass of the older stars is evidence for the loss-of-mass theory. Richards and Hall from the lead ratio (.225) in Black Hills uraninite deduce an age of 1,500,000,000 years for these South Dakota deposits.

Epoch-making for atomic physics of the year 1926 is the spinning electron. Pauli showed that each electron has four quantum numbers, no electron in a given atom having all four numbers like those of any other electron. Uhlenbeck and Goudsmit conceived the fourth degree of freedom might be rotation. The idea was a happy inspiration. In spite of difficulties, the spinning electron is now part of atomic theory. It seems to account for the ratios of magnetic moment to angular momentum, optical and x-ray doublets, relativity doublets, anomalous Zeeman effect, and so on. The last is a triumph of the new mechanics. The fine structure of hydrogen, empirically proposed, is closely accounted for by internal spin. Not only points of accord but those of divergence as well lend strength to the new mechanics.

Breit discusses the change in classical treatment which the spin introduces as affecting the electromagnetic origin of mass. He finds the electron radius must be of the order of  $10^{-12}$  cm, its angular momentum (of the field) less than  $h/4\pi$  by a factor of 20, and with a peripheral speed 20 times that of light at most. The condition for stability and peripheral velocity of the electrons, of the order of light, implies a relation between  $h$  and constants  $e$ ,  $c$ ,  $m$ , so that the electric charge is probably quantized. The agreement in order of magnitude for the spinning electron suggests a deeper significance than merely its spectroscopic convenience.

Eddington also regards the spinning electron as having a peripheral speed exceeding that of light. Since the electron mass and energy are in steady fields, relativity can hardly object. Richardson answers two objections—showing that a quantized spin in an orbit will be balanced by a nuclear electron with a similar moment. Lindeman explains nuclear stability by spinning electrons and protons. The magnetic fields thus formed would at short distances balance the disruptive electrostatic forces of the excess positive charge. Frankel gives a mathematical solution showing that the quantized

spinning electron explains multiplet structure of spectrum lines. Kronig assumes that the Zeeman effect calls for a magnetic moment of two Bohr magnetons,  $10^{-20}$  c.g.s. units involving high spinning speeds. Mohler measures the formation of negative ions as a function of electron velocity, using slow-moving electrons only. High speed does not seem to produce ionization.

Relativity still yields research stimuli; several investigators hold Miller's results still inconclusive. Tomaschek at heights from 120 to 3457 meters made magnetic observations which would have detected an ether-to-earth relative velocity of 20 meters per second, but obtained only negative results. Meinur finds that the ether-drag calls for a density gradient of 5 to 1 for the ether from earth to the point where the drag is zero, and concludes this to be unlikely. Lodge regards the partial drift as a minute residual, and doubtful. Miller replies that the effect is always present and cannot depend upon the instruments or their surroundings. Thirring denies the cosmic cause and attributes the displacements to local disturbances. Perhaps relativity is to remain in many fields of physics as a disturber of settled theories, to the great gain of physical progress. Miller deduces from his fringe displacement the possibility that the solar system moves in space with a velocity of 200 km per second toward an apex in the constellation Draco, right ascension  $262^\circ$ , declination  $65^\circ$ . This astonishing result may have the highest significance, not having been discovered by line-of-sight velocity research by the astronomers. Perhaps it indicates the movement of the entire galaxy. Further observations alone will tell.

Lorentz suggested a diagram in a four-dimensional space in which each projectile is numbered and represented by its world line. If on this diagram coordinate values and potentials are marked, then values independent of the choice of coordinates can be assigned to the lengths of line and intervals of time. The components of a vector change when it is a closed path. Certain numbers will give all quantities involved in gravitation and electro-magnetism. The variety of these numbers is so great that something hitherto unobserved lies behind them. Lunn suggests that electrical and optical theory and a rational physico-chemical theory of the varieties of matter will ultimately be aspects of a fine-scaled, time-spaced geometry.

The progress report of the Optical Society is an excellent review of the latest status of spectral theory and atomic structure. The greatest progress is through the work of Russell, Saunders, Pauli, and Heisenberg. In alkali spectra, the practice has been to obtain the azimuthal quantum of the valence electron by use of the coordination  $k$  equals respectively 1, 2, 3, 4, for S, P, D, F, respectively. In atoms having a rare gas core and more than one electron, the quantum number 1 is not identical with the azimuthal quantum  $k$  of the last added electron, but the quantized resultant of the  $k$  values of all valence electrons. The detail cannot be entered into, but a rich literature is developing; both of the new quantum mechanics and general spectral theory. The important point, however, is that an orbit is fully characterized by four quantum numbers, and that no two electrons may have the same values for all four numbers. An astonishing outcome is

the precision with which the periods of the periodic system flow from the theory. In a given period the number of elements is the number of binomial coefficients  $N$ , or  $2(2k-1)$ , since each value is the number of magnetic levels. The elements closing shells and the quantum number of the shells are: He, 1; Be, 2; Ne, 2; Mg, 3; Al, 3; Zn, 3; Ca, 4; Cd, 4; Lu, 4; Sr, 5; X, 5; Hg, 5. The  $n_k$  group of electrons is readily computed as equal to  $2(2k-1)$ , and the total electrons in the periods as the summation of this expression, or  $2n^2$ .

Most prolific has been the harvest of new analyses of all spectra, work on 20 elements having been reported during the year. The helium doublets are now believed to be triplets with intensities 5, 3, 1, which completes the universality of the alternation law that odd values of  $R$  occur with even values of the atomic number. The Heisenberg-Hund theory predicts spectral terms and their relations.

The excellent bulletin by Van Vleck on quantum principles and line spectra summarizes in an up-to-date manner this important field. Such summaries will be much needed as we approach a perfected theory of atoms and spectra. Nor does the latter any longer seem a visionary goal. The focussing of three independent mathematical systems on quantum mechanics, each clearing up seeming anomalies, gives genuine promise of bringing the new atomic theory to a most interesting stage of completeness. Spectroscopists realize this and hold the key to the problem, now the outstanding subject in all science.

The extraordinary remark by Birge, that "the energy levels associated with the valence electrons of molecules agree in all respects with those associated with the valence electrons of atoms," clears the way for the great field of molecular spectra with its evident possibilities. That the problem is not easy is evidenced by the fact that the neutral nitrogen molecule has more than 50,000 lines in its known band spectra. Possibly the quantum measure of the electronic levels may result from the analysis of band spectra.

Brillouin summarizes the new atomic mechanics of Heisenberg, Born, Dirac, and Kramers and Fues, using Schrödinger's mechanics. He finds the frequencies of diatomic oscillations and rotation, giving a continuous spectrum and half-integral values for the oscillation quantum numbers and rotation quantum numbers. Kronig submits a theorem on the space quantization with application to complex spectra, in agreement with Heisenberg and Goudsmit.

Three independent systems have within the year given illuminating insight into the quantum concept. Born, Heisenberg, and Jordan use the Hamiltonian system, in which the coordinates are matrices rather than series. Each element in a matrix is identified with a transition between two stationary states of the old theory, with an imaginary exponential factor determining the frequency, and the amplitude factor determining the probability of transition. Dirac uses "angle variables." Schrödinger's wave equation is the latest, seeming to be even more powerful than the matrix mechanics. He uses energy levels as the characteristic value in an equation which Eckhart shows accords with the matrix method, in which each element can be expressed as a volume integral. The new mechanics gives

automatically details which were hypotheses in the old quantum theory. For example, the new dynamics incorporates logically and simultaneously both frequency and intensity. The Bohr frequency condition follows naturally from quantum conditions in the Hamiltonian form. It gives the quantum shift, spectroscopic stability, and the selection principle. The new mechanics gives different energy values only where the old were not in accord with experiment.

Sharp has accurately measured the Compton shift, and Beck and Dirac, one with the old mechanics and the other with the new, derive the same formula, so that this phenomenon no longer supports the extreme light-dart theory. Van Vleck finds the combination principle and the quantum condition follow if the Bohr frequency condition is postulated with that of conservation of energy, the canonical equations, and the commutability relations. Schrödinger deduces a quantity which exhibits the properties of Planck's constant  $h$  in a study of quantization. By analogy, as geometrical optics in diffraction phenomena give way to wave theory, so "geometrical mechanics" (classical laws) which hold for matter in bulk give way at atomic distances to undulatory mechanics.

LaPorte in a study of series and ionization potentials shows that the theory of Hund permits prediction of unknown terms and their position, and that the Pauli equivalence principle agrees with empirical facts minutely. Gibbs and White publish a series of studies of the regular and irregular doublet law, applying it to stripped atoms in the same rows as rubidium and caesium, showing beautiful graphs remarkably similar to those of the same phenomena for the first group atoms higher in the periodic table. Bowen and Millikan using aluminum electrodes obtain the lithium doublets from oxygen at 1031.98 and 1037.69 Angstroms.

Gibbs and White show that the regular and irregular doublet laws may be applied to the stripped atoms of the first long period by almost linear extrapolation of the frequency of the doublets and of the screening constants, the location and frequency separations of the doublets of  $\text{Cr}_{11}$  and  $\text{Mn}_{11}$ .

By X-radiation wave lengths Harris, Yntema, and Hopkins have discovered element 61, leaving now only 85, and 87 still undiscovered, if we accept the Noddack report concerning 43 and 75. Hopkins and colleagues recrystallized from the bromates solutions. Two bands became stronger and these formed regular sequence with those of 60 and 62, as confirmed by the X-radiations from the specimen  $\text{La}_1$  (2.2781 Å) and  $\text{La}_2$  (2.0770 Å).

Mohler, Foote and Chenault, continuing their caesium research, show the Sharp maximum ionization at  $1^2\text{S}$  limit and clear secondary maxima, one for each wave length of the principal series from  $1^2\text{S}-4^2\text{P}$  to  $1^2\text{S}-9^2\text{P}$ , the results bearing out the Bohr theory.

Vichowsky and Urey account for the fine structure of helium lines by superposing the Sommerfeld relativity change of energy and the magnetic change according to their formula, using half quantum numbers for the azimuthal quanta. They suggest that the proper form of relativity mechanics may give correct fine structure of the H and He lines.

Cosmic rays have been studied for 15 years, at first by Hess, and then by Kolhorster, later

by Millikan. The last named reported a constancy at all times and directions. Kolhorster finds a maximum for the Milky Way. Jauncey and Hughes recompute the range of wave lengths to be between 2.4 and 3.2 milliangstroms.

A new tool of research is the Coolidge 350,000-volt X-ray tube which disintegrates living tissue and causes the air to become luminous through impacts of electrons passing through a special window. The production of an extremely stable material which adheres strongly to metals was an unforeseen effect caused by the bombardment of acetylene gas by electrons. Other effects are doubtless numerous enough to engage hundreds of investigators for years to come.

Ives and Johnsrud continue work on saturation photo-currents, using potassium, rubidium, and sodium. In general, the current increases linearly with temperature.

The use of specific frequencies of ultraviolet in producing hydrogen peroxide ( $H_2O_2$ ) illustrates the new photochemical technique which gives such promise in industry. In Cathala's photochemical synthesis of HCl the effective wave length is 540 millimicrons. The primary reaction obeys the Einstein law of photochemical equivalent.

Bridgman describes methods of growing large crystals of tungsten, antimony, bismuth, tellurium, cadmium, zinc, and tin. Duane reports a study of the reflection by a crystal of its own characteristic radiation.

Jaeger, Terpstra, and Westenbrink show by X-ray analysis the crystal structure of germanium tetra-iodide, each Ge atom being surrounded by four iodine atoms oriented in a regular tetrahedron—an interesting homologue of  $CCl_4$ . Huggins concludes that in diamond and similar crystals electron pairs form tetrahedron corners around each atom, each pair being held jointly by two atoms as in the Lewis valence theory. He believes valence shells of electronegative atoms are tetrahedra of electron pairs and not cubes of single electrons.

The fundamental work being done on single crystals makes notable the present record achievement of producing a single copper crystal 17 inches long,  $2\frac{1}{8}$  inches in diameter, weighing 12 pounds, and showing a 13 per cent higher electrical conductivity than previous specimens. It was formed at about 1 cm per hour, requiring 68 hours for completion, being fed from an electric furnace.

The X-ray analysis is being applied to the space lattice of metals in metallurgical stress-strain research. The field is one of the utmost promise, as the rich literature published during the year in this field will amply demonstrate.

The year 1926 was very active all along the many frontiers of physics. Einstein regards gas as a system of separate linear vibrations like those of a solid body, and gives the mathematical theory involved. Weinberg issues a summary of 52 publications on slow transformations of solids subjected to forces above the elastic limit, with a list of cases promising for research, cases where only a change of form is involved. Addenbrooke shows relations between the electric properties of ten non-metallic elements and their thermal properties, surface tension, and capillarity. The U. S. Bureau of Standards designed glasses to match closely the expansivity of the pottery body to minimize strain crazing.

In physical technique two examples may be

cited. Carl Mueller made sheets of steel so thin as to be invisible but strong enough to support 5 centimeters of mercury. Clacey at the U. S. Bureau of Standards produced under measured control three quartz flats, of planeness so exact that no errors exist greater than one five-millionth of an inch.

Perhaps the most useful publication of the year was the first volume of the *International Critical Tables* issued under the auspices of the National Research Council. Four volumes are to follow, of which two were in press at the end of the year.

As eloquent words as those of Jeans before the meeting of the International Astronomical Union are rare to find. Speaking of the physics of the sky, he said: "We are realizing more and more that what the astronomer is really doing, to a large extent, is the carrying out of the study of physics and chemistry on an heroic scale. His laboratory is the open vault of heaven, with dimensions to be measured in millions of light years. Hung up in that vault are millions of crucibles in which matter is maintained at temperatures ranging from a few thousands to many millions of degrees. In those crucibles the solution of the problem of the ultimate structure of matter is demonstrated innumerable millions of times every second. There the dream of the alchemist comes true, and the elements are transmuted one into another. There, probably, also occurs that transformation which is of still greater importance, the transformation of matter into energy. Nature provides the apparatus and the material, and carries out the experiments; all we have to do is to record and interpret."

**PHYSIOGRAPHY.** See GEOLOGY.

**PLANISTS.** See MUSIC.

**FIGS.** See LIVESTOCK.

**PINE BLISTER RUST.** See BOTANY, under *Plant Diseases*.

**PINK BOLLWORM.** See ENTOMOLOGY, ECONOMIC.

**PIPE LINES.** See WATER-WORKS AND PURIFICATION.

**PIRACY.** See INTERNATIONAL LAW.

**PITTSBURGH, UNIVERSITY OF.** A coeducational institution of higher education, at Pittsburgh, Pa.; founded in 1787. The total fall enrollment for 1926 was 9779, distributed as follows: College, 1956; engineering, 358; mines, 81; business administration, 608; education, 987; graduate, 659; medicine, 246; law, 241; pharmacy, 353; dentistry, 640; retail training, 13; downtown division, 1967; extension students, 1670. The summer session had a registration of 2125, an increase of 204 over 1925. There were 773 faculty members, 60 new appointments having been made, as follows: College, 21; engineering, 4; business administration, 9; education, 7; medicine, 2; law, 2; pharmacy, 1; dentistry, 2; military training, 4; officers of administration, 8. The productive endowment amounted to \$1,358,550. The year's expenditures were \$3,126,052. The library contained 110,000 volumes. In 1925-26 a new five-year college-dental school course was opened; the length of the course for the Ph.D. degree in the college of pharmacy was increased from two to three years; the department of economics was transferred from the college to the school of business administration, and the department of geology from the school of mines to the college; the university appointed a

photo-naturalist, Norman A. McClintock, A.B., to make and collect films of natural history, which were shown in many high schools as well as in the university. During 1924-25, \$6,803,399 was given for the university's new "Cathedral of Learning." The university was the chief beneficiary by the will of Mary O'Hara Darlington, who died May 17, 1925. With the income from her estate, estimated at \$1,000,000, it was planned to build a Darlington Memorial Library, to house the general library of the university and the Darlington collection. The children's hospital, the first building in the medical centre, was completed, at a cost of \$1,500,000. The athletic stadium, costing \$2,100,000, was dedicated in 1925. A system of honor courses was tried out in 1925-26, and received further study in 1926-27. It was proposed to build between 80 and 100 faculty residences on the campus. The total gifts received during 1924-26 amounted to \$9,396,970. Chancellor, John G. Bowman, LL.D.

**PLAGUE.** See BUBONIC PLAGUE.

**PLANETS.** See ASTRONOMY.

**PLANT DISEASE CONTROL.** See AGRICULTURE, UNITED STATES DEPARTMENT OF.

**PLANT DISEASES.** See BOTANY.

**PLANT PHYSIOLOGY.** See BOTANY.

**PLANT QUARANTINE.** See AGRICULTURE, UNITED STATES DEPARTMENT OF.

**PLANTS, POISONOUS.** See VETERINARY MEDICINE.

**PLATINUM.** The production of new metal from all sources in 1926 was estimated on about the same basis as in 1925 and was stated at 4000 ounces of platinum, and, in this connection, 6000 ounces of palladium and 30 ounces of iridium. Refined platinum began the year at \$120 an ounce and dropped to \$108 in February, which was the low price of the year. In May it rose to \$114, and while it reached \$118 at the end of September, it sagged to \$112 in October. In the United States the chief production of crude platinum, which came from Oregon, California, and Alaska, was practically the same as in 1925, when 343 ounces were reported. In Canada the Tulameen River afforded a larger yield of crude platinum, while the refining of the Sudbury ores furnished approximately as much as in the previous year. The production of platinum in Colombia in 1926 was at least equal to the 62,000 ounces produced in 1925. In Russia it was reported that conditions in the platinum mining industry had improved and that the output might be as much as 60,000 ounces in 1926. The production of Russian refined platinum during the year was handled by the Precious Metal Trading Company of Berlin, under the supervision of the Soviet Government. In Tasmania the Adams River osmiridium field was productive, while in the Transvaal a new plant was actively producing refined platinum metals and other new mills were completed, so that during 1927 at least 45,000 ounces of platinum metals could be produced.

In 1926 there were imported into the United States platinum ores with a platinum content of 1221 troy ounces, valued at \$124,668; platinum in the form of grains, nuggets, sponge, or scrap to the amount of 87,162 ounces, valued at \$8,683,359; and platinum ingots, bars, sheets, plates, etc., to the amount of 26,585 ounces, valued at \$2,995,582. The exports of platinum in the form of ingots, sheets, wire, alloys, and scrap amounted to 11,593 troy ounces, valued

at \$1,253,795; of manufactures, except jewelry, to 1898 troy ounces, valued at \$160,648; and jewelry valued at \$869,973.

**PLAYGROUND AND RECREATION ASSOCIATION OF AMERICA.** An association, organized in 1906 by Theodore Roosevelt, Jacob A. Riis, Luther Halsey Gulick, and others, which aims to bind together in a national body the efforts growing up in various parts of the country to provide safe and adequate areas where children may play and have competent recreation leadership. A staff of field secretaries is maintained to assist cities in organizing year-round recreation programmes, in securing municipal appropriations, and in strengthening existing programmes, and through these secretaries the association works to secure State legislation for facilitating the development of municipal systems. The association maintains an employment service for recreation workers. Its publications are a monthly magazine, *The Playground*, books and pamphlets on all phases of the play movement, and a bulletin service. Publications distributed in 1926 were the *Community Drama Handbook*, *Community Music Handbook*, *The Christmas Book*, and programmes for the celebration of all holidays and special days. The association also has a correspondence and consultation bureau, where attention is given to letters of inquiry and personal conferences about the work. The community drama service supplies practical suggestions and literature to amateur dramatic clubs, and by means of the community music service the association assists in organizing music groups, in training volunteers, and in providing an exchange for community music information. There is also a service for negro communities, aiding local colored groups to secure recreation opportunities. In 1926 the association established the National Recreation School, which conducts a postgraduate course in professional recreation training. Another department of the association, the National Physical Education Service, conducts campaigns for compulsory physical education legislation, and aids States having such legislation to enlarge their programmes. The thirteenth recreation congress was held at Atlantic City, N. J., October, 1926. The officers for the year were: President, Joseph Lee; treasurer, Gustavus T. Kirby; secretary, Howard S. Braucher. The headquarters are at 315 Fourth Ave., New York City.

**PNEUMONIA.** Dr. C. J. Vaux, director of the department of public health, Pittsburgh, Pa., publishes an article on Pneumonia in the *Journal of the American Medical Association* for December 11, with especial reference to the new pneumonia quarantine which is on trial in Pittsburgh. This first went into effect in April, 1924, for in the preceding month there had been 22 episodes in which a second case had developed in a single family or household. The contagiousness of pneumonia has always been a problem, for under certain unknown conditions it is distinctly communicable from man to man. But in addition to its record of March, 1924, Pittsburgh had shown the greatest pneumonia incidence of any large city in the United States during the entire year of 1923; it was 371 per 100,000 inhabitants.

The policy of isolation and quarantine had now been carried out for 31 months, beginning April, 1924, with a notable falling off in the pneumonia deaths, for in 1925 there was a de-



crease of 607 deaths in comparison with 1923. That this is not a mere coincidence seems to be borne out by the fact that Washington, D. C., which had also been testing the quarantine, also reported a relatively low mortality from the disease. The quarantine is little more than isolation during the actual duration of the disease, and the public take kindly to it.

Quinine is an ancient remedy in pneumonia, and some of its synthetic derivatives have been used extensively in more modern times; while quite recently there is seen a tendency, in a half dozen different countries, to return to the use of a quinine salt by hypodermic injection. The first point to establish is the power of the drug in specifically affecting and shortening the course of the disease. In the *Wiener Klinische Wochenschrift* for August 12, Professor Steyrer, of the medical clinic of the University of Innsbruck, reported the routine use of the muriate of quinine by intramuscular injection, in doses of 7.5 grains. Pneumonia is not especially common in this part of Austria and does not appear to be of a particularly severe type. No time is lost in making a laboratory diagnosis, but at the very first appearance of the chill, temperature rise, stitch in the side and other symptoms which characterize lobar pneumonia, an injection is made. If it is found later that the disease is due to some microorganism other than the pneumococcus, the treatment is abandoned, for the specific action of quinine appears to be limited to the latter. In more than 60 per cent of all cases treated there was a distinct shortening of the disease, and in a majority of these the crisis appeared before the customary fifth day, sometimes by the fourth and even the third day.

**POETRY.** See LITERATURE, ENGLISH AND AMERICAN; FRENCH LITERATURE; GERMAN LITERATURE; SCANDINAVIAN LITERATURE; SPANISH LITERATURE, ETC.

**POISONOUS PLANTS.** See VETERINARY MEDICINE.

**POLAND.** A European republic formed as a result of the War and comprising the territory formerly divided among the three governments, Austria-Hungary, Russia, and Prussia, from the three partitions of Poland in 1772, 1793, and 1795, which were confirmed by the Congress of Vienna in 1815. After the World War (1914-18), Poland, in addition to this original territory known as Congress Poland, acquired Prussian Poland, Polish Galicia, Upper Silesia, and a portion of the Vilna territory. Capital, Warsaw.

**AREA AND POPULATION.** The total area, according to the latest estimates, is 149,915 square miles, and the population, according to the first official census of the Polish Republic in 1921, 27,184,836. The largest cities with their populations at that census are: Warsaw, 936,713; Lodz, 451,974; Lvow, 219,388; Poznan, 184,756; Cracow, 183,706, and Wilno, 128,954. The Polish nationality represents two-thirds of the population and is followed in numerical order by the Ruthenians and Jews.

**EDUCATION.** The educational system of Poland had not been completely unified in 1926. Education in all its grades is free, and elementary instruction is compulsory. Elementary schools in 1924-25 numbered 28,078, with 64,382 teachers and 3,237,340 pupils. There were 778 secondary schools, with 11,560 teachers and 221,092 pupils. There were also 195 colleges for teachers, with 1931 teachers and 34,217 pupils, and 850 tech-

nical and professional schools, with 110,000 students.

**PRODUCTION.** Agriculture and stock raising are the two principal occupations of the country, engaging about 65 per cent of the inhabitants. The accompanying table, from the *Statesman's Year Book* for 1926, shows the area in acres and the yield in metric tons of the chief crops in 1924 and 1925:

Crops	Area (acres)		Yield (metric tons)	
	1924	1925	1924	1925
Wheat	2,682,372	2,752,000	884,446	1,578,000
Rye	11,042,870	12,113,000	3,654,819	6,588,000
Barley	3,045,977	3,024,000	1,208,117	1,677,000
Oats	6,462,595	6,365,000	2,411,958	3,311,000
Potatoes	5,827,745	5,827,000	26,869,802	29,106,000
Sugar beet	408,535	425,000	3,210,800	3,687,000

Other important crops are hemp, hops, tobacco, and chicory. The last livestock census showed 3,201,166 horses, 7,894,586 cattle, 2,178,216 sheep, and 5,170,612 pigs.

The chief industrial centres are at Warsaw, Lodz, Cracow, Katowice, Dabrowa, and Czeszochowa. One of the chief industries is the manufacture of textiles, especially cotton, with 2,391,580 spindles and 37,313 looms; in the wool industry there were 383,210 spindles and 2126 looms. Among the other important industries are the manufacture of paper, chemicals, and wood products; also sugar refining, the output of which in 1925-26 was 520,000 tons from 75 mills.

The accompanying table shows the output, in metric tons, of the more important minerals for two years:

Product	1924	1925
Bituminous coal	32,224,680	28,999,000
Lignite	88,088	62,813
Crude petroleum	770,900	810,583
Natural gas	438,242	584,637*
Salt	274,600	229,374
Potash	81,600	181,141
Iron ore	274,000	314,147
Steel	685,600	808,136
Zinc	98,000	114,000

\* In thousands of cubic meters.

**COMMERCE.** In 1926, the outstanding factor in Poland's trade balance was the growing demand for Polish coal abroad, caused by the coal strike in the United Kingdom. Exports of coal from Poland in 1926 increased from an average of 770,000 tons for the first six months to an aggregate of about 2,200,000 tons for August and September. Total export values for the first eight months of 1926 exceeded import values by 313,000,000 gold zlotys, and surpassed corresponding 1925 values by 504,000,000 gold zlotys. The latter figure nearly covers the entire foreign trade deficit which had accumulated for the first seven months of 1925.

**FINANCE.** The deficit of 59,000,000 zlotys in the state budget for the first five months of 1926 was gradually reduced during the succeeding three months to 44,000,000 zlotys, and as the Minister of Finance stated to the diet, "sufficient additional revenues are expected during the last four months of the year to wipe out the entire deficit by the end of the year without abandoning the government's avowed policy of economies in administration." This prediction appeared to be well founded, in view of the fact that while the state expenditures for 1926 as fixed exceeded



those of the budgetary estimates of the previous government by 76,000,000 zlotys (1,806,000,000 zlotys versus 1,730,000,000 zlotys), the estimated deficit of 200,000,000 zlotys had been reduced during the first eight months by 156,000,000 zlotys. The improvement in state finances was accounted for, primarily, by the increase in revenues that followed more efficient tax collection and greater paying ability and responsiveness of the taxpayers; and, secondarily, by an increase of 8,000,000 zlotys in the average monthly yield of state monopolies for the sixth, seventh, and eighth months as compared with the first five months of the year. The increased supply of gold and foreign coin enabled the Bank of Poland to stabilize the zloty at about nine to the dollar, from the previous low of 12 zlotys to the dollar on May 12 (the day of the Pilsudski coup d'état). On Oct. 1, 1925, the total internal debt amounted to 232,065,773 zlotys, and the total external debt to 2,000,818,099 zlotys.

The Polish State budget for 1927-28 (lately changed to commence on Apr. 1, 1927), as submitted to the diet by the Minister of Finance on Nov. 29, 1926, proposed a total expenditure of 1,898,680,000 zlotys from a total revenue of 1,899,253,000 zlotys, thus closing with a planned surplus of 573,000 zlotys. This proposed expenditure compares with an actual expenditure of 1,631,000,000 zlotys in 1924, an actual of 1,971,518,000 zlotys in 1925, and a tentative maximum of 1,861,000,000 zlotys in 1926. In connection with the increase between 1924 and 1926, notice must be taken of the rise in cost of living in Poland, as measured by the wholesale-price index, which rose from 134 in 1924 to 190 in November, 1926. It is important to note also, in connection with the tentative budget surplus for 1927-28, that the Polish budget for the calendar year 1926 was the first one to be closed without a deficit, the tentative deficit presumed by the previous government in January, 1926, having been subsequently turned by the new government into an actual surplus of between 50,000,000 and 70,000,000 zlotys. The zloty has a par value of \$0.103, but its exchange value for the year 1926 averaged \$0.111796.

COMMUNICATIONS. On Dec. 31, 1924, there were 10,537 miles of railway open for traffic in the republic, all of which were the property of the state. At the end of 1926, the *Railway Age* reported that since the reconstruction of the Polish State Railways, involving lines of greater significance from the transportation viewpoint—half of the destroyed bridges having been rebuilt (both in number and length), as well as 86 per cent of stations, 50 per cent of all pertinent buildings, etc.—the railways have devoted themselves to improving their lines. Tracks and structures have been strengthened, additional tracks laid and new buildings erected. In the last-mentioned category may be included the reconstruction of the Warsaw terminal, planned on a great scale and almost completed. For the purpose of supplementing the system, approximately 245 miles of new line have been laid. At the end of 1926 there were under construction 310 miles of standard-gauge government lines, among which is the Kalety-Podzaniec line, 70 miles long. At the end of 1926 the railways owned 5216 locomotives, 10,047 passenger cars and 138,903 freight cars. The financial result of the operations of the railways had been favorable since 1924, in contradistinction to prior

years when inflation caused a constant deficit in the railroad balance. The year 1924 brought an excess of revenues in the amount of 71,550,000 zlotys, and the year 1925 only 1,880,000, which drop is explained by the fact that in the latter period the cost of new rolling stock was deducted from revenues, whereas in 1924 this cost was accounted for in the investments column. The first half of 1926 showed excess of income over disbursements to the amount of 38,921,000 zlotys.

GOVERNMENT. Under the constitution adopted Mar. 17, 1921, executive power is vested in the president, chosen by both houses of the National Assembly for a period of seven years; and legislative power is vested in the National Assembly, consisting of a Senate (111 members), and a diet (444 members), called the Sejm, both elected by universal suffrage. President at the beginning of the year, Stanislaw Wojciechowski (elected Dec. 20, 1922). The ministry was constituted as follows: Prime Minister and Minister of Foreign Affairs, Alexander Skrzynski; Finance, Jerzy Zdzichowski; Justice, Dr. Stefan Piechocki; War, General L. Zeligowski; Interior, Wladyslaw Rackiewicz; Religious Affairs and Education, Stanislaw Grabski; Commerce and Industry, Stanislaw Osiecki; Agriculture, Dr. Wladislaw Kiernik; Agrarian Reforms, Jozef Radwan (acting); Railways, Adam Chadzynski; Labor and Social Affairs, Bronislaw Ziemecki; Public Works, Norbert Barlicki.

#### HISTORY

PILSUDSKI'S COUP D'ÉTAT. During the year Poland witnessed an upheaval which was destined to wipe out the ordinary course of government and replace it with a so-called constitutional dictatorship under the control of General Pilsudski, Poland's popular military hero. In April, the cabinet of Count Alexander Skrzynski, which had been formed in November, 1925, was compelled to resign because of financial difficulties which caused a split in his coalition party in parliament. After several ineffectual attempts on the part of Skrzynski to form a new coalition group he was compelled to admit failure, and on May 10 a government was finally established under the leadership of Ex-Premier Vincent Witos, who kept most of the members of the preceding cabinet in office. The new cabinet announced that it would continue to carry out the financial and diplomatic policies of its predecessor. In an article in the press, General Pilsudski attacked the Witos government as being weak and corrupt. According to press reports, an attempt was made by the Witos government to arrest Pilsudski as a result of the attack.

Apparently, this was the signal for an uprising on the part of the army loyal to Pilsudski. After several days of street fighting, the Pilsudski forces were in control of Warsaw. The president and prime minister retired from Warsaw, and handed in their resignations to parliament. This move left the presidency in the hands of Marciel Rataj, the speaker of the diet. After a conference between Rataj and General Pilsudski, a cabinet was formed under the leadership of Charles Bartel, a former minister of railways. Pilsudski took the post of minister of war, and practically nominated the holders of the other cabinet positions. A meeting of the

National Assembly was held May 31, and General Pilsudski was elected president of the republic by a vote of 292 to 193 for Count Binniski, on whose candidacy the entire opposition to Pilsudski united. The "dictator" refused the position on the grounds that the majority in his favor was not sufficiently heavy. On the next day, Professor Moscicki was elected to the position. The control of Pilsudski over the political fortunes of Poland was made secure—for the time at least—when, in the middle of June, he was appointed permanent commander-in-chief of the armies of Poland, with powers subject to no check on the part of the cabinet or diet. When the diet failed to pass an electoral law which the dictator requested and desired, he let it be known that he favored a new election. Thereupon the diet which was in office when he effected his coup d'état May 12 agreed to disband June 22. It reassembled a few days later, but merely continued its useless discussions of the electoral law, which every one but the diet, apparently, realized would be put into operation whenever the dictator raised his "mailed fist." The measure as passed finally by the diet was scarcely the one desired by the general, but it did strengthen the hands of the executive department of the government, although no provision was made for a dictatorship. Most observers declared that it was not necessary to create such a position by law when it already existed in fact. The one significant feature was the conferring on the president of the power of issuing decrees while the diet was not in session. Several decrees were issued during the summer to stabilize the financial conditions of the country, and by the end of the year these produced some effect, as noted above in the paragraphs on Finance. In connection with the financial system and operations of the country, it should be noted that during the year an exhaustive study of the entire fiscal fabric of the country was made under the direction of Prof. E. W. Kemmerer, of Princeton University.

As early as September, it appeared that the driving force of Pilsudski's coup had spent itself. Opposition to his régime was extremely strong in the supposedly cowed diet, which refused to accept meekly the army budget as proposed by the Bartel government. The Bartel government resigned, but was ordered to return to the diet and announce that it was to continue in office even if it should become necessary to dissolve the diet. This was done, but the diet was obdurate, and Pilsudski, instead of ordering its dissolution, took over the premiership himself. The press in foreign countries were almost unanimous in the belief that Pilsudski did not dare go before the country in a general election, for fear of losing his dictatorship. The formation of the new cabinet was only accomplished after a consultation with the leaders of the diet and the inclusion of a Socialist member.

As the year drew to a close, all kinds of rumors were rife in Poland to the effect that Pilsudski desired to become king and was waiting for a propitious moment to make such a declaration. The last two months of the year witnessed a virtual deadlock between the government and the diet. A decree had been issued which ordered that the members of the diet should stand when a presidential decree was read. Rather than obey this mandate, which was to

signalize the subordination of the legislative to the executive branch of the government, three-fourths of the members of the diet absented themselves when a decree was read concerning the budget. Those who remained, instead of attending to the business on hand drew up a protest against the press censorship which had been established by the government. The diet after this persistently refused to pass the government's budget bill, with the result that the members of the cabinet refused to attend the meetings of the legislative body. On the last day of the year the government officially announced its recognition of the defeat of the press censorship bill by the diet. This admission, however, was tempered by a new bill more severe than the one killed by the diet, and one which caused all the newspapers of the country to unite in fighting it. See LITHUANIA.

**POLAR RESEARCH.** Explorations in 1926 were largely along lines designated as "stunts" by the president of the Royal Geographical Society, which divert action from really scientific objects. Under this head are the attainment of the North Pole and the traverse from Spitzbergen to Alaska. Researches within the Arctic Circle were confined to Greenland and adjacent seas.

**ANTARCTIC EXPLORATIONS.** Efforts to renew antarctic work resulted in one organization only, that of the Argentine Republic, which at the end of the year was about to enter the field. Great Britain, however, continues its research work on the ascertainment of biological factors as to whales, seals and other large marine animals. Accurate knowledge as to breeding, feeding and migration would render practicable the formulation of regulations for the conservation of the valuable antarctic fisheries in Ross Sea and in the Falkland waters, where these studies are made.

**ARCTIC EXPLORATIONS.** The most popular events of the year were the visit by airplane to the North Pole, and the crossing by dirigible airship of the Arctic Ocean from Spitzbergen to Alaska. Establishing his base at Kings Bay, Spitzbergen, Lieut. Com. R. E. Byrd and pilot F. Bennett, U.S.N., flew in a Fokker plane to the North Pole and returned to Spitzbergen in 15½ hours. The flight disclosed the absence of land over about 9000 square miles, hitherto unknown. Congress extended its thanks to Byrd, and promoted him and Bennett. A more extended aerial journey was made by Amundsen, in the dirigible airship *Norge*, from Kings Bay, Spitzbergen, across the polar ocean to Teller, Alaska, a distance of about 2100 miles. Besides Amundsen, the chief, Ellsworth, his assistant, and Nobile, chief pilot, the dirigible carried 13 other persons besides equipment, and fuel for 4000 miles, a load of 17 tons. The Arctic Ocean was entirely ice-clad, save a few leads of open water, the largest near Point Barrow. No land was seen, but atmospheric conditions were such that low, ice-covered islands could hardly have been visible. In the European regions no life was noted north of the 83d parallel, and none on the American side except a few fox tracks near Point Barrow. Wireless communication was maintained to 87 N., after passing the pole. The flight was without incident until the airship encountered fogs and gales in the Bering Sea. The *Norge* descended safely at Teller, Alaska, May 14, after a flight of 71 hours. Geograph-

ically, the flight eliminated about 100,000 square miles from the unknown, but otherwise there were no scientific results. See *AERONAUTICS*.

Two American scientific expeditions were sent north during the year, one from New York and the other from Chicago. Most extended in its scope and fruitful in its results was the expedition of the American Museum of Natural History, of New York. Under G. P. Putnam it visited Greenland and its western seas. The *Morrissey* went as far north as Etah; while it had no ice dangers it came near shipwreck by grounding on a ledge, and later by losing its propeller. The natural history collections were extensive and interesting, birds, fish, plants, sharks and walrus. Most important were the narwhal prizes, five skeletons and two embryos. Of value were the two live polar bears. The expedition brought back a sad page of polar history. Putnam reported a confession of the Eskimo, Kudlooktoo, a convert to Christianity, that he killed Marvin, reported by Peary as drowned. The head of the Thule trading station, north of Cape York, Rasmussen, who is an expert in the language and life customs of the natives, conducted an investigation, and reported the confession of Kudlooktoo and Inukitsog, chosen attendants of Peary, as follows: In 1909, after leaving Peary and returning south, Marvin threatened to abandon Inukitsog. Then, in self-defense, as they alleged, Kudlooktoo killed Marvin. Rasmussen further continues that: "During the American MacMillan expedition in 1914 under very similar circumstances, Fitzhugh Green shot the Eskimo Pivaitsoq, because Green believed the other would leave him. Green declared that he acted in self-defense, just as Kudlooktoo declared." In each case there was justification.

The Field Museum of Natural History, Chicago, dispatched an expedition under MacMillan, which visited Labrador, Baffin Land and Greenland, to collect material in all branches of science. The search was most successful, and MacMillan brought back hundreds of specimens of animals, fishes, plants and ethnological articles.

In the early spring of 1926, the Detroit Aviation Society organized and financed an expedition for the exploration by airplane of the unknown regions north of Alaska. The leader, G. H. Wilkins, from his depot at Fairbanks, made 11 attempts to establish a working base at Point Barrow. However, Wilkins made a flight of about 150 miles across the frozen sea, and penetrated some 50 miles into the unknown regions, without discovering any signs of land. See *AERONAUTICS*; *GREENLAND*; *WRANGELL LAND*.

**POLITICAL AND SOCIAL SCIENCE, AMERICAN ACADEMY OF.** A forum for the scientific discussion of social, civic, industrial, and economic topics, founded in Philadelphia, Dec. 14, 1889, and incorporated Feb. 14, 1891. Meetings are held throughout the year, at which subjects of national and international interest are discussed. The 30th annual meeting was held May 14-15, 1926, and considered the general subject, "The United States in relation to the European situation." Other meetings conducted during the year discussed the following subjects: "Modern crime; its prevention and detection," and "Federal versus state jurisdiction in American life." The *Annals* is published bi-monthly as the official organ of the academy;

each issue is devoted to a study of a particular subject of political and social importance. In 1926 the following volumes were issued: *Industrial Safety*; *Legal Aid Work*; *Modern Crime; Its Prevention and Punishment*; *The United States in Relation to the European Situation*; *Markets of the United States*; *The Motion Picture in Its Social and Economic Aspects*. The officers in 1926 were: President, Dr. L. S. Rowe; Secretary, Dr. J. P. Lichtenberger; treasurer, Charles J. Rhoads; and vice-presidents, Dr. Ernest Minor Patterson, the Hon. Herbert C. Hoover, and Dr. Charles E. Merriam. The postoffice address of the academy is Box 4060, Philadelphia, Pa.

**POLITICAL ECONOMY.** Subjects in applied economics and the field of social economics are treated in this volume under the following heads: *FINANCIAL REVIEW*; *CHILD LABOR*; *CO-OPERATION*; *LABOR*; *LABOR ARBITRATION AND CONCILIATION*; *LABOR LEGISLATION*; *MATERNITY PROTECTION*; *MINIMUM WAGE*; *OLD-AGE PENSIONS*; *STRIKES AND LOCKOUTS*; *UNEMPLOYMENT*; *WOMEN IN INDUSTRY*; *WORKMEN'S COMPENSATION*; as well as in such articles as *SOCIALISM* and *TRADE UNIONS*. See also under *CHILD WELFARE*, *CRIME*, *MARRIAGE AND DIVORCE*; and *SOCIAL WELFARE WORK*.

The economic history of the year is recounted in the article *AGRICULTURE* and the articles on agricultural topics and the various crops; in articles on the several industries, minerals, public utilities, etc.; and in sections on economic conditions in the articles on the individual countries. Books on political economy for the general reader published during the year are noted in *LITERATURE, ENGLISH AND AMERICAN*, paragraph *Economics and Politics*. For the special student there are listed the papers read at the annual meetings of the various learned societies, such as the American Academy of Political Science, the American Economic Association, etc.

**POLITICAL SCIENCE, ACADEMY OF, IN THE CITY OF NEW YORK.** A national institution for advancing the political sciences and promoting their application to public problems; founded in 1880 in New York City, and incorporated in 1910 under the membership corporations law of the State of New York. On Dec. 31, 1926, it had 6206 members, of whom nine were honorary members, 179 life members, and approximately 1000 subscribing members, chiefly libraries and organizations. All States in the Union, the District of Columbia, Porto Rico, Hawaii, the Philippine Islands, and leading foreign countries, are represented in both the individual and subscribing memberships. Two general meetings were held in 1926. The semi-annual meeting, May 10-14, was an international conference held at Briarcliff Manor, N. Y., to discuss international problems and relations. This conference brought together a representative gathering of American editors and journalists, and special foreign guests representing England, France, Germany, and Switzerland. The papers and addresses delivered at the conference were published in the *Proceedings*, July 1, 1926. This volume, which attracted wide attention, contained papers arranged under nine topics, as follows: *Disarmament and Security*; *Raw Materials in Relation to International Peace and Economic Prosperity*; *The Far East*; *The Danubian and Balkan States*; *Economic Adjustment*

and the French Debt; International Problems and Latin America; International Cooperation for the Promotion of Public Health and Social Welfare; special topics, The World Court, Transit Problems, Tariffs and Trade Barriers, Press and Social Safety; America's Part in International Cooperation.

The annual meeting November 17 was devoted to the subject, Business and Public Policy. Three sessions were held on installment purchasing, its merits and demerits; better economic organization of agriculture; problems of prosperity. These papers and addresses were to be published in the *Proceedings* for January, 1927. Another volume of *Proceedings* appeared in January, 1926, and contained the papers and addresses at the annual meeting held in October, 1925, on the subject of trade associations and business combinations. Other publications in 1926 were four issues of the *Political Science Quarterly*, the official organ of the academy, edited by the political science faculty of Columbia University, and including the "Record of Political Events, Jan. 1-Dec. 31, 1925." A total of 1435 pages was the output of the year.

The total income for the year 1926 was about \$35,000, made up chiefly from membership dues. The officers in 1926 were Samuel McCune Lindsay, president; Albert Shaw and Paul M. Warburg, vice-presidents; Parker T. Moon, secretary and managing editor of the publications; George A. Plimpton, treasurer; and Ethel Warner, executive secretary and assistant treasurer. The headquarters are in Fayerweather Hall, Columbia University, New York City.

**POLITICS, INSTITUTE OF.** These annual sessions, at which foreign affairs are so discussed as to promote a more sympathetic understanding of the problems and policies of other nations, were inaugurated by the trustees of Williams College in September, 1919. Courses of public lectures are delivered by scholars and statesmen from foreign countries, and round-table and open conferences, presided over by recognized authorities on the topics selected for discussion, are established. The first session of the institute was held at Williamstown, Mass., in the summer of 1921, and annual sessions have taken place since that time. Membership is open to men and women on the faculties of colleges and universities, to writers on foreign politics, to persons engaged in the direction of foreign commerce or banking, to diplomatic and consular officials, to officers of the army and navy, to editors, foreign correspondents of the press, and by invitation, to others who have had training and experience in international law and politics. In 1924 the General Education Board and the Carnegie Corporation joined with Bernard M. Baruch, who had made the first three meetings possible, in financing the movement for a five-year period.

The sixth session of the institute met in Williamstown, July 29-Aug. 26, 1926, with a membership of about 300. The general subject of the discussions was international relations. Addresses were delivered by visitors of international reputation, among whom were Dr. Alfred E. Zimmermann, commissioner of the League of Nations at Vienna, and Sir Frederick Whyte, president of the Indian legislative assembly, 1920-25. Lecture courses were conducted by Dr. Nicholas Politis, the Greek minister to France,

on Disarmament and Security, and by A. Mendelssohn-Bartholdy, director of the Hamburg Institute of Foreign Politics, on Europe.

Round table conferences were held on a number of political and legal questions, among which may be mentioned: Mineral Resources in Their Political Relations, by Dr. H. Foster Bain, secretary of the American Institute of Mining and Metallurgical Engineers, Dr. Charles K. Leith, University of Wisconsin, and Charles H. MacDowell, president of the Armour Fertilizer Works; New Aspects of the World Economic Situation, by Dr. Moritz J. Bonn, College of Commerce, Berlin; The Role of Chemistry in the World's Future Affairs, by Harrison E. Howe, editor of *Industrial and Engineering Chemistry*; International Problems Arising from the Diversity of Legal Systems, by Arthur K. Kuhn, president of the American branch of the International Law Association; The Chinese Republic and the Powers, by Henry K. Norton, Ossining, N. Y.; Limitation of Armaments, by Dr. Jesse S. Reeves, University of Michigan; Inter-American Problems in the Foreign Policy of the United States, by Dr. Leo S. Rowe, director-general, Pan American Union.

The general conferences included the following subjects: Mineral Resources in Their Political Relations, by Dr. Bain, Dr. Leith, and Mr. MacDowell; A Survey of the International Situation in the Far East, by Dr. George H. Blakeslee, Clark University; Public Opinion in World Affairs, by Arthur S. Draper, foreign editor, *New York Herald-Tribune*; Chemistry in World Affairs, by Harrison E. Howe. The institute publishes an annual *Report* of the main ideas developed at the conferences; copies may be obtained by advance orders through the secretary. The officers of administration in 1926 were Harry Augustus Garfield, chairman; Walter Wallace McLaren, executive secretary, and Willard Evans Hoyt, treasurer. Headquarters are at 1 Hopkins Hall, Williamstown, Mass. See **CHEMISTRY, INDUSTRIAL**.

**POLO.** There were no international polo competitions of importance during 1926, but the sport thrived marvelously, nevertheless, throughout the United States and South American countries and in the British dominions. The Hurricanes proved the most sensational polo combination of the year, winning the United States open championship and various other tourneys. Six men comprised the Hurricane line-up, four belonging to the younger group of American players and two being visiting Englishmen. Stephen Sanford was responsible for the organization of the team, and supporting him were Robert E. Strawbridge, Eric Pedley and Winston Guest, Americans, and Major Vivian Lockett and Captain C. I. T. Roark of England. Because of an injury, Major Lockett was able to take part in only one of the more important matches. The junior championship and the intercircuit honors in the United States were both won by Army fours. Both the outdoor and the indoor intercollegiate titles went to Yale University. It was practically assured that an international match for the Hurlingham trophy would be held during 1927, the possibility being that the British would attempt to regain the cup through an Indian team. A three-cornered tournament by teams representing the United States, Argentina and Great Britain also was favorably considered.

**POPULATION AND FOOD PRODUCTION.** See AGRICULTURE.**PORK.** See LIVESTOCK.**PORTLAND CEMENT.** See CEMENT.

**PORTO RICO**, pòr'tò rēkō. An island possession of the United States in the West Indies; the most easterly and the smallest but most densely populated of the Greater Antilles; lying 480 miles east of Cuba, 1380 miles southeast of New York. Capital, San Juan.

**AREA AND POPULATION.** The area of the island is 3435 square miles. The population, according to the census of 1920, was 1,299,809; in 1926 it was estimated at 1,417,000, of which 388,756, or 27.4 per cent, was urban and 1,026,890, or 72.6 per cent, was rural; 1,088,668, or 76.8 per cent, was white, and 328,978, or 23.2 per cent, was colored. In 1926 the birth rate was 39 per thousand and the death rate 22, and the rate of natural increase 16.9. The number of persons married during the year was 21,348. The capital, San Juan, had a population of 70,707 in 1920. Other important towns of Porto Rico are Ponce (41,561) and Mayaguez (19,069).

**EDUCATION.** Elementary education is free and compulsory between the ages of 8 and 14. The legal school year consists of 10 school months of 20 days each in both urban and rural schools. Night schools are maintained for 32 weeks, and the University of Porto Rico for 36 weeks. In his report covering the year, the Governor of Porto Rico stated that the department of education labored under great embarrassment during that period. The amount made available for expenditures was reduced from \$4,580,000, appropriated the previous year, to \$4,070,000, because of expected reductions in revenues. This necessitated a general reduction of the programme of school extension and an actual reduction of the established activities of the department. The schools of Porto Rico were conducted during the year in 2281 school buildings, representing 4445 different classrooms. Of these, 905 were owned publicly and 1376 were rented. During the year, 25 new buildings were completed in the urban zone and 120 in the rural. Fifty-three buildings were in course of construction, and 62 new sites were acquired. In publicly supported schools there were employed 4478 teachers, of whom 1257 were men and 3221 women. The total enrollment of pupils in the public schools was 213,641. There were 6369 who attended private schools. The number of children of legal school age was 438,743. The number of compulsory school age was 209,220. The high schools numbered 17, employing 209 teachers and having an enrollment of 6159 students. There were 35 continuation schools, employing 62 teachers and having an enrollment of 1100 pupils. The enrollment in all the departments of the University of Porto Rico during 1925-26 was 1270.

**PRODUCTION.** The chief industry on the island is agriculture, and the four principal crops are sugar, tobacco, coffee, and fruits. The sugar crop of the year under review was not as satisfactory as the one of the preceding year. The amount produced during the year was 603,187 tons, and the amount exported was 578,605 tons. The value of the exported crop was \$48,201,000, the average price being 4.17 cents per pound. The low price of sugar was doubtlessly owing to an excess of world production. The tobacco pro-

ducers enjoyed the most prosperous year in the history of the island. Not only was the crop the largest ever produced but it sold for the highest price ever paid for Porto Rican tobacco, with the exception of the "boom year," 1920. The average price paid was about 38 cents per pound, while some lots were sold as high as 46 cents per pound. The crop produced was over 35,000,000 pounds. Exports amounted to 24,521,000 pounds, bringing in New York \$13,944,000, or about 56 cents per pound; while the exports of the previous year amounted to only 22,721,000 pounds, and the amount received was \$9,837,000, or about 43 cents per pound. Cigars exported showed a slight increase, \$7,196,000 in 1925-26 and \$7,105,000 in 1924-25. Coffee producers experienced both an increase of production and an increased value of the product during the year. Exports were 26,330,000 pounds, value, \$7,062,000; average price, 26.8 cents per pound. The total value of fresh and canned fruit exported amounted to \$5,994,000, the highest amount ever received. The amount of cotton produced in Porto Rico during the year was 4,726,000 pounds.

**COMMERCE.** The largest export and import trade of Porto Rico in any normal period was recorded during the fiscal year ending June 30, 1926, when it amounted in value to \$193,983,115, which was an increase of \$8,659,570 over the total for the preceding year and 12 times the value of the 1900 trade. Although the 1925-26 trade was below that of the inflated post-war years, 1919-20 and 1920-21, when the totals were \$247,199,983 and \$217,758,278, respectively, it was nevertheless, the largest figure yet attained under normal conditions. In the fiscal year 1925-26 Porto Rico maintained a favorable trade balance of \$3,466,587, compared with \$4,314,343 for 1924-25. The decrease was merely significant of lower sugar and coffee prices. The accompanying table shows the foreign trade of Porto Rico, by countries:

FOREIGN TRADE OF PORTO RICO FOR FISCAL YEAR 1925-26

Countries	Imports	Exports
	1925-26	1925-26
United States .....	\$83,046,558	\$88,106,570
Dominican Republic .....	1,845,055	1,994,096
British India .....	1,425,077	.....
Spain .....	1,149,020	1,004,339
Dutch West Indies .....	864,564	862,850
Canada .....	853,319	.....
United Kingdom .....	780,029	2,093
Mexico .....	767,226	.....
Newfoundland .....	732,499	.....
Denmark .....	732,287	25,362
Netherlands .....	685,204	409,258
Germany .....	593,438	1,308,263
Cuba .....	505,286	2,910,937
British West Indies .....	294,037	109,331
Uruguay .....	279,032	.....
France .....	215,534	106,135
Virgin Islands .....	84,650	812,949
Belgium .....	80,059	60,140
Italy .....	56,749	958,964
Argentina .....	45,202	83,634
Venezuela .....	28,665	113,788
Sweden .....	.....	108,560
All other countries .....	194,779	162,171
Total .....	95,258,264	98,589,390

The table on page 612 shows the shares of the United States and foreign countries in some of the commodities imported by Porto Rico in the fiscal year 1925-26:

IMPORTS OF COMPETING COMMODITIES INTO  
PORTO RICO AND SOURCES OF SUPPLY

Commodity	1925-26	
	Foreign countries	United States
Rice .....	\$680,121	\$9,522,858
Meats .....	349,669	4,212,518
Fertilizers .....	882,721	2,568,162
Fish .....	1,703,274	1,834,490
Gasoline .....	503,008	1,243,985
Tobacco leaf .....	394,661	833,289
Jute bags .....	1,429,585	664,345
Potatoes, white .....	198,738	641,468
Illuminating oil .....	257,864	455,488
Glass and glassware .....	18,094	357,716
Vegetable oils .....	252,886	270,974
Agriculture machinery .....	260,774	268,474
Cement .....	561,450	219,268
Newsprint paper .....	32,988	84,029
Corn, grain .....	268,940	7,588

**FINANCE.** The amount of insular revenue during the fiscal year ended June 30, 1926, was \$11,740,364. This was more than 5 per cent in excess of the treasurer's estimate, and more than 38 per cent greater than the revenue of the previous year. The principal increases were in customs, \$445,037; excise taxes, \$1,471,377; and income taxes, \$1,630,966. The net expenses of the operation of the government was \$10,102,934. The insular budget under existing law is prepared in advance for two years and is submitted by the governor to the regular biennial session of the legislature. The budget for the fiscal years ending June 30, 1926 and 1927 was submitted at the regular session of the legislature which convened in February, 1925. The estimates of receipts for each year was placed at \$10,500,000. The governor sent to the legislature the budgets of expenditures, amounting to \$10,283,000, which was \$217,000 below the estimated revenue. The legislature passed budgets amounting to \$10,790,000, or \$290,000 in excess of the estimated revenue. The governor vetoed enough items to reduce the budgets to \$10,417,000, or \$383,000 below the estimated revenue. The bonded debt of the insular government at the close of the fiscal year was \$22,954,000. About \$14,000,000 is for general public improvements, for roads, for schools, and for other public buildings.

**LEGISLATION.** According to the report of Governor Towner, there was a special session of the legislature which met from June 28 to July 14, 1926. Among the legislation enacted were laws amending the University Law; the Internal Revenue Act; the act providing for the incorporation of coöperative associations; the law regulating the operation of motor vehicles, and others of lesser importance. Of the resolutions approved there were some providing for the transfer of public lands to the Federal government; one exempting from taxation the property and shares of coöperative associations organized under the act of 1925; others authorizing the sale of lots to certain religious organizations; and some authorizing the economy commission of the legislature to grant some municipalities certain sums of money out of the premiums obtained in the sale of insular bonds.

**OFFICERS.** The members of the government at the end of the year were: Governor, Horace M. Towner; Attorney-General, George C. Buttee; Treasurer, Juan G. Gallardo; Commissioner of the Interior, Guillermo Esteves; Commissioner of Education, Juan B. Huyke; Commissioner of Agriculture and Labor, Carlos E. Chardon; Com-

missioner of Health, Pedro W. Ortiz; Auditor of Porto Rico, Frederick G. Holcomb; Executive Secretary, Eduardo J. Saldana.

**PORTS AND HARBORS.** Notwithstanding the great increase in the water-borne commerce of the United States, there was comparatively little important work done in development of the ports and harbors and provision of increased facilities during 1926, though new elevators, coal docks, and piers were being built. The general work of deepening waterways continued, and at some ports construction proceeded. In Europe certain developments were undertaken, but in most countries it was not possible to carry on work on the scale originally planned. The accompanying paragraphs indicate some of the more important projects in progress or completed during the year.

**ALABAMA STATE DOCKS.** Work was well under way during the year on a port-development project along the Mobile River, close to Mobile, Ala., which was being undertaken by a State commission. This work involved a 560-acre site, and contemplated the construction of five slips, 1600 feet long by 350 feet wide, with piers 516 feet wide between the slips, transit sheds, a cotton warehouse, and a railway yard. Construction work to cost \$10,000,000 was authorized, and up to the end of the year \$5,000,000 bonds had been sold. The work accomplished included the removal of the Louisville and Nashville R. R. main line inland clear of the site, the opening of a new canal for industries which were isolated by closing the one-mile creek, and miscellaneous construction work, including the completion of a reinforced concrete and steel warehouse for cotton, the completion of the apron wharf for pier Number 2, a reinforced-concrete superstructure carried on concrete piles, and a beginning of work on the apron wharf for pier Number 1. In the river considerable dredging had been done, and preparations were made for awarding the contracts for the transit shed adjacent to the cotton warehouse, and, on pier Number 2, for the buildings of reinforced concrete and steel. The cotton warehouse was placed in service.

**ALBANY PORT DEVELOPMENT.** A Port District Commission comprising the cities of Albany and Rensselaer, N. Y., had put under way for development a project to supply a marine terminal for deep-draft ocean-going vessels on the Hudson River, at Albany. This was in coöperation with the work of the Federal Government in dredging a 30-foot channel as far as Albany at an estimated cost of \$11,200,000. The work on the new terminal began in April, 1926, and it was expected that 300 feet of bulkhead, equipped with cranes, and with a river depth sufficient for vessels of 14-foot draft, would be ready by July, 1927, and 1000 feet of bulkhead storage space and railroad connection by September.

**ORE DOCKS ON THE GREAT LAKES.** At Superior, Wis., ore-shipping docks of both the Northern Pacific Railway and the Great Northern Railway were being reconstructed during the year, and engineers of the two companies had adopted radically different designs for similar structures built at the same place and for the same purpose. The Northern Pacific Railway employed an all-concrete design, including both poured and pre-cast portions. An extension of 648 feet was added to the original dock or pier 1212 feet in length, with 202 pockets of 350 tons

capacity, giving a storage of 70,700 tons. As this dock was inadequate for the increased traffic the extension was added in 1925-6, supplying 108 pockets and increasing the total of storage capacity to 108,500 tons. This dock was 80 feet from water level to base of rail, and 42 feet 4 inches to the low point of the pockets. It was 59 feet wide over the pockets and about 66 feet over the deck. Both the original and the new extension were built entirely of reinforced concrete, mainly poured in place, and an efficient equipment and organization was planned to carry on the work.

The Great Northern Railway, for its ore docks, adopted structural-steel framing, in combination with poured and pre-cast concrete, claiming that greater facility of erection was secured, with lower first cost and a reduction of about 10 per cent in weight above the foundation piling. The substructure of this dock, as in the case of the Northern Pacific dock, was a concrete pier, but instead of using sand-filled cribs with interior piling, the Great Northern dock employed piling alone. In the Great Northern structure concrete columns on a concrete pier carried transverse steel A-frames with steel deck stringers, and framed between them were the steel beams and girders for the front walls and bin bottoms, which were composed of pre-cast concrete slabs. This dock was built originally in 1906-7 as a timber structure 2244 feet in length, with 374 pockets or bins of 300 tons capacity, giving a total storage of 112,200 gross tons. The new dock, when rebuilt, would have a storage capacity of 130,999 gross tons, the pocket capacity being increased to 350 tons. The height of the new dock is 80 feet, 8 inches from water level to base of rail and 42 feet, 4 inches to the low point of the bins or tops of concrete columns. The superstructure has a width of 56 feet over the bin walls and 74 feet between hand rails.

CANADA. Montreal maintained its position of exporting the largest quantity of grain of any seaport of the world, notwithstanding the fact that navigation is closed for five months of the year. In 1925, over 166,000,000 bushels were shipped, and here as at other Canadian ports the grain storage and shipping facilities were being extended. At North Vancouver an elevator with 2,250,000 bushels capacity was being built, and at Prince Rupert another with a capacity of 1,000,000 bushels was completed; while a similar installation was under construction at Victoria. At the latter place the new dry dock at Esquimalt was completed during the year and was put in use, this giving the Dominion of Canada three dry docks with a length of 1000 feet and over.

One of the notable works on the Pacific Coast was the concrete pile pier, 1200 feet long and 331 feet wide, completed during the year by the Canadian Pacific Railway at Vancouver. This pier was designed to accommodate transoceanic ships, and was a combination of earlier plans for two separate piers which were designed to be built between two existing piers of creosoted-pile construction. For this pier, pre-cast concrete piles were used, varying from 15 to 23 inches square in section and from 20 to 73 feet in length, some 6000 piles being required, about half of which were driven with a skid-driver and the remainder by a floating driver. The pier carried two single-deck sheds

from the head-house at the shore end the full length of the pier, these sheds being 109 feet wide and lying on either side of a central depressed area carrying four tracks, over which no roof was provided. The head-house was two stories high, providing on the lower floor storage space and driveways, and on the upper floor passenger and office facilities for the Canadian Pacific ocean steamship service.

GREAT BRITAIN. In Great Britain during the year there was comparatively little activity in the development of dock and harbor undertakings, and the coal strike also tended to suppress any discussion of new projects. The Port of London Authority placed a contract for the enlargement of the Tilbury Docks so that facilities would be provided for the largest vessels afloat. The estimated cost of the new scheme was about £2,750,000, and it was expected that the work would require nearly five years. There was involved a new entrance to the dock, with a length of 1000 feet and a clear width of 110 feet, and with a depth of 45 feet 6 inches over the sill at high water. A new dry dock, having an entrance from the existing wet dock, was to be built, with a length of 750 feet, which later could be increased to 1000 feet if necessary. This dry dock would be 110 feet wide at the entrance, with a depth of 37 feet 6 inches over the sill. A floating passenger landing stage and a new riverside station were to be provided at Tilbury, and the contract was let for the new entrance to the South-West India Dry Dock with a length of 550 feet, a width of 80 feet, and a depth of 35 feet at high water. Various passages were to be constructed, to enable the largest vessels navigating up to this part of the river to proceed to any part of the India and Millwall docks system. Extensions were completed at the Surrey Commercial Dock, and at the Royal Victoria Docks improvements which had been begun in 1924 were completed. In connection with these increased facilities, it may be said that the trade of the Port of London in the financial year 1925-26 exceeded 47,000,000 tons, or an increase of nearly 2,000,000 tons over the preceding year. In addition to work on the docks, considerable dredging, aggregating 4,000,000 cu. yd. of material, was done in the Thames, and the Yantlet Channel was deepened to 30 feet.

Notwithstanding a reduction in the tonnage using the Port of Liverpool, as indicated in the report of the Mersey Docks and Harbor Board, improvements were in progress, and the Gladstone Dock extension, begun in 1910, had reached a stage where sheds and cranes on the dock site were being erected. The capital expenditure of this work had averaged about £1,000,000 annually. At the Alfred Docks, Birkenhead, the new 80-foot lock entrance as well as the 80-foot inner passage was under construction, with appropriate steel gates. A new passage 100 feet wide, with a depth of water of 31 feet, between the West Float and Wallasey Pool, Birkenhead, was also under construction. The Manchester Ship Canal had been deepened to 30 feet, between Eastham and Stanlow oil docks, and various extensions were in progress at other docks. At Seacombe a new floating roadway and landing stage was dedicated, and on the Cheshire bank of the River Mersey the new Bromborough Dock was under way.

At Southampton, the Southern Railway Com-



pany had revised its scheme for the extension of the Southampton Docks, and was developing a project estimated to cost when completed about £13,000,000, and to provide 16,600 feet of additional quays, and accommodation for 20 of the world's largest liners. During the year, the berths for the 60,000-ton floating dock which had been moored in Southampton harbor dock had to be redredged and the dock temporarily moved. The approach channel from Calshot to the Southampton dock entrance was dredged so as to afford a depth of 35 feet at low water.

Other improvements in England were generally discussed, but not much work was under way.

**FRANCE.** The opening of the Rove Tunnel in October (see CANALS) was the principal achievement of the year, and it was expected that it would be of great importance to the port of Marseilles, providing additional quay accommodation in the Étang de Berre and opening up the port to barge traffic on the Rhône. At Havre, the large dry dock under construction since 1911 had not been finished, but it was hoped that it would be opened in 1927. This dock was built in and upon a huge steel caisson framework which was floated into position over a site previously dredged to the required depth, and was there sunk in place.

**ITALY.** In Italy, during the year, extensive quays were being built at Genoa, Naples, Catania and Palermo; concrete-block construction on rubble bases being employed for this type of work. New quays were being built at Leghorn and Venice, where monolith construction was employed, as the foundations had to be sunk through a considerable depth of soft ground. At Venice, a new commercial port on the mainland at Marghera had been built, and the first section of the entrance channel up from the Lido was well under way and would be completed in 1927, it was expected. This provided for a depth of 11 meters and a width of 150 meters.

**BELGIUM.** At Antwerp, steady progress was being made in the important dock extensions, and in addition to the building of the Kruisschans lock the *bassin-canal* between the lock and the old docks was nearing completion. This link was to be 5 kilometers long, with a minimum width of 300 meters. Antwerp was spending over \$10,000,000 on its various port improvements, but the commerce of the port, which before the War averaged about 14,000,000 tons annually, in 1925 totaled over 20,000,000 tons.

**HOLLAND.** Progress was recorded on the construction of the new lock at Ymuiden, which was to be one of the largest in the world and was to be completed in 1928. It was announced that the ship canal between Ymuiden and Amsterdam would be commenced in 1927, while the waterway from the German Rhine to Rotterdam was under improvement, being one of the most important public works of the Dutch Government for some time. The River Noord was being widened throughout its length to 200 meters. The Dutch Government also had under way the improvement of the Dordrecht and North Sea Canal, and the construction of a new waterway from the River Waal at Nimeguen to the River Maas. The new port of Basle on the Rhine was opened during the summer, and there was in operation a direct barge service between that point and Rotterdam.

**SPAIN.** At Valencia, a new northern break-

water and eastern wharf was under construction, as well as harbor work at Bilbao, Huelva, and Barcelona.

**SOUTH AMERICA.** At the port of Valparaíso, the seaward extension of the breakwater was continued, being a notable work with the outer end having its foundation at a depth of 140 feet below sea level. This was said to be a greater depth of water for harbor construction than was found in any similar work. A new breakwater was practically completed at Antofagasta during the year; it was built in an average depth of water of over 80 feet, and was of concrete-block construction, placed on a rubble mound, at a depth of about 32 feet. At this port the scheme of construction in progress was estimated to involve over \$15,000,000. Valdivia, a Chilean river port, was the scene of considerable dredging, which, with other works, was to cost over \$5,000,000; while harbor work was under way at Constitución. In Peru, port improvements were being constructed at Callao. At Buenos Aires the Argentine Government had decided upon some harbor extensions that had been suspended. At Rio de Janeiro, the anchorage was being deepened to 10 meters, and an addition of 1025 meters was being made to the deep-water quays. Port extension works were begun at Santos, the work being estimated to require some eight to 10 years for its completion.

**AFRICA.** Progress was recorded in the development of Table Bay harbor and at Port Elizabeth, while at Walfish Bay a new basin and wharf were completed during the year, providing a depth of 30 feet throughout the entrance channel and of 33 feet alongside the wharf at low water. In Northern Africa, the Mustapha basin at Algiers, begun in 1923, and the new jetty, 5000 feet in length, showed progress. For the former, superimposed concrete blocks were used for the walls; the largest blocks weighed as much as 400 tons. The jetty was of the vertical wall type, on a rubble base. At Bizerta, in Tunis, damage to the mole done in 1915 was being remedied by the reconstruction of over 600 feet. At Casablanca, in French Morocco, was completed during the year the great outer breakwater, 2100 meters in length, together with some new quays.

**FAR EAST.** The new King George Dock at Calcutta progressed actively during the year, so that it was estimated that the opening would take place in 1928. This would add nearly 200 acres of water space to the Calcutta dock system, along with adequate equipment for cargo handling on the dock sides in the way of electric cranes. At Bombay, the construction of very large new docks at Trombay in the upper part of the harbor, at the Island of Elephanta, was under construction; while reclamation work in the back bay was in progress, but having involved expenditures in excess of the estimates, was the subject of an official inquiry. At Singapore, active work was under way in connection with the new naval base, with large-scale dredging and some structural work. A floating dock, 850 feet in length by 170 feet in width, with a lifting capacity of 50,000 tons, was put under contract. At Basra, a new channel was dredged through the bar at the mouth of the Shatt-al-Arab, and was completed in April, affording access to Basra for vessels drawing 24 feet. It was proposed to increase this depth to permit



ships drawing 30 feet to pass. The project was being executed by suction dredges.

**AUSTRALASIA.** In Australia, the Appleton Docks extension at Melbourne was proceeding rapidly, and the existing channels of the harbor were being extended. At Coff's Harbor, on the eastern coast of New South Wales, a new port was being constructed, involving the construction of two breakwaters which would provide a sheltered archway of 100 acres with a depth in excess of 30 feet. In Western Australia, at Fremantle, the Victoria Quay was being reconstructed, and at Albany the harbor was being dredged to a depth of 33 feet. The Federal Parliament in Australia was considering schemes to develop port sites in the Northern Territory.

**PORTUGAL.** A republic of Europe, situated west of Spain in the Iberian peninsula, the westernmost of all the states of Europe. Capital, Lisbon.

**AREA AND POPULATION.** The area of continental Portugal is 34,254 square miles; population, according to the census of 1920, 5,621,977, as compared with 5,545,595 in 1911. The Azores, with an area of 922 square miles, had a population of 242,613 in 1920; and Madeira, with an area of 314 square miles, a population of 169,777 in 1920. The total area, therefore may be considered 35,490 square miles and the population in 1920 may be placed at 6,032,991, because the Azores and Madeira are considered integral parts of the republic. The Portuguese colonial possessions in Africa and Asia had an estimated area of 936,264 square miles, with a population of 8,737,853, of which 927,292 square miles, with a population of 7,736,700, were in Africa. Lisbon, the capital, had a population in 1920 of 486,372, and Oporto, the next largest city, 203,091. No later educational statistics are available than those for 1919, when the public elementary schools numbered 7007, with 170,415 pupils. According to the 1920 census, the illiterates numbered 1,838,419 men and 2,438,992 women.

**PRODUCTION.** About one-third of the surface of Portugal is under cultivation; the greater part is used for cereals, pulse, pasture, etc. Corn, rye, and wheat are the chief cereals. See Table of Production by Countries under article **AGRICULTURE**. The livestock raised are largely sheep, goats, oxen, and swine. An extensive acreage is planted in vineyards, wine being one of the chief products of the country. The growing of olives, figs, and oranges is of some importance also. Forests cover about 17 per cent of the total area; the annual yield of cork has been estimated at more than 175,000,000 pounds. The most valuable mineral resource is wolfram; others are antimony, copper, gold, iron, lead, tin, and manganese; but the deposits are not developed to any considerable extent, for lack of fuel and cheap transportation facilities.

**COMMERCE.** Complete returns for Portuguese commerce in 1925 were not available, but the combined exports from Portugal and its near-by islands to the United States showed a total of \$5,297,672 against \$6,125,499 in 1924. The decrease was entirely due to the decline in exports from the Azores and Madeira Islands, since shipments increased from both Lisbon and Oporto, on the mainland. Exports declared from Madeira, owing to reduced demands for embroideries, showed a striking decline from \$2,858,440 in 1924 to \$1,306,687 in 1925. Shipments from the Azores, for a similar reason, declined from

\$324,336 to \$126,291. Cork products constituted the most important single class of goods imported from the mainland; these, as declared through Lisbon, aggregated \$1,701,754 as against \$1,054,619 in 1924. Unfavorable conditions prevailing in the fishing industry in 1925 reduced shipments of sardines packed in oil to \$835,832, from \$1,063,304 in the earlier year. The trade in dried figs assumed more than usual importance, with a value of \$344,436 in 1925 as against \$152,642 in 1924. Goat and kid skins rose to \$135,320 from \$9926. The only notable item to show a value decline in 1925, aside from sardines, was cocoa beans, which dropped from \$184,733 to \$145,296. In 1924 the total imports were valued at 2,832,270,512 escudos and the total exports at 924,973,975 escudos.

**FINANCE.** The estimated revenue and expenditure for 1923-24 was 674,076,163 escudos and 813,402,000 escudos; for 1924-25, 1,237,986,167 escudos and 1,324,188,853 escudos; for 1925-26, 1,306,193,612 and 1,369,758,749; for 1926-27, 1,314,377,491 and 1,397,534,483. In the last month of 1926 *Commerce Reports* published corrected figures concerning the 1924-25 budget, which showed that the expenditures of the government for the year exceeded the country's collected revenue by the sum of \$8,390,000 (gold). The deficit was covered by borrowing.

**COMMUNICATIONS.** No later figures were available than those given in the preceding *YEAR BOOK*, which showed that in 1923, 2446 vessels of 4,865,880 tons entered the port of Lisbon. At the beginning of 1924 the total railroad mileage was 2040, of which 843 was state-owned.

**GOVERNMENT.** Executive power is vested in the president, elected by the parliament for four years but ineligible for reelection, who acts through a responsible ministry; and legislative power in a parliament of two chambers, the upper house having 71 members elected by the municipal councils, and the lower house 164 members elected for three years by direct suffrage. President of the republic at the beginning of the year, Bernardino Machado, elected Dec. 12, 1925. After the elections of Nov. 8, 1925, the Senate had 41 Democrats, 9 Nationals, and 20 others; and the Chamber of Deputies had 84 Democrats, 23 Nationalists, and 53 others. The cabinet, which was formed on Dec. 18, 1925, consisted of the following members: Premier and Minister of the Interior, Antonio M. Silva; Foreign Affairs, Dr. Vasco Borges; Finance, Armando M. Guedes; Justice, Dr. Catanho de Menezes; War, Col. José de Mascarenhas; Marine, Commander Pereira da Silva; Colonies, Gen. Viera da Rocha; Instruction, Dr. Santos Silva; Commerce, Dr. Jaspas de Lemos; Agriculture, Dr. Torres Garcia.

**HISTORY.** Portugal suffered from its usual share of revolutions in 1926. In February an attempt, under the leadership of some of the military officers, was made to overthrow the government, but it was quashed by the decisive action of the ministers of marine and foreign affairs, the more easily when the expected support of the revolutionists failed to materialize. After a period of comparative quiet, the revolutionary movement broke out anew in May, and on the 29th a bloodless revolution succeeded in overthrowing the Da Silva ministry. President Machado resigned June 1, and the control of the government was taken over by General Gomes da Costa, who assumed the ministerial positions

of war, colonies, and agriculture. The revolutionists declared that they merely wished to set up a more democratic form of government and rid the country of professional politicians. Apparently at the beginning, at least, the new government had the united support of almost all the factions in the country. After a brief attempt at rule by a triumvirate, General da Costa entered Lisbon at the head of the army, and June 27 made himself the supreme dictator of the affairs of the country. His rule did not last long, however, inasmuch as he was arrested July 9 by General Carmona, who had been dismissed from office by da Costa, and another bloodless revolution then occurred which left General Carmona in the saddle. The latter proceeded to appoint a cabinet, with himself as premier and minister of war. General da Costa was exiled by the new ruler. On November 29, General Carmona assumed the post of president of the republic, and appeared to have established his government on a firm basis, through amnesty to former enemies, including da Costa, and through a desire really to bring about reforms, mostly financial, which would restore the country to a firm economic basis. As the year closed there was considerable speculation as to whether parliament would peacefully accept General Carmona's assumption of the presidency of the republic, an office which could be constitutionally obtained by parliamentary election only.

**PORTUGUESE EAST AFRICA**, or **MOZAMBIQUE**. A colony of Portugal, extending along the coast of Africa from 10° 40' S. latitude to the boundary of the Union of South Africa; bounded on the west by the Union of South Africa and Rhodesia, and on the north by Tanganyika. Area, 428,132 square miles. The estimated population comprises about 3,000,000 natives; 10,500 whites; and 1100 Asiatics and half-castes. There are three clearly defined divisions of the colony: (1) the Province of Mozambique, 295,000 square miles; (2) the territory under the Mozambique Company, 59,840 square miles; (3) the district under the Nyasa Company, 73,292 square miles.

In addition, there is the "Kionga Triangle," formerly belonging to German East Africa, situated south of Rovuma, which was allotted to Portugal by the Treaty of Versailles. Lourenço Marques, the capital and chief port for foreign trade, had a population, according to the latest available statistics, of 9849, of whom 4691 were Europeans. Other ports are Mozambique, with a population of about 361,839 (472 Europeans); Ibo, Chinde, Beira, Quilimane, and Inhambane. The chief products are beeswax, coconuts, sugar, and mineral products. Rubber and ivory are exported. The foreign trade of Mozambique Province for 1925 (exclusive of that for the territories of the chartered companies) exceeded the previous year in both imports and exports; but imports so greatly predominated as to increase the very unfavorable balance of trade of 1924. Imports, exclusive of gold and silver, amounted to \$13,484,000 and exports to \$7,270,000, leaving a negative balance of \$6,214,000. Corresponding figures for 1924 were \$9,859,000 for imports and \$6,446,000 for exports, with a negative balance of \$3,413,000. In other words, exports in 1925 were only 54 per cent of imports, whereas in 1924 they were 65 per cent. Revenue and expenditure for 1924-25 for the province were estimated at 59,030,386 escudos.

**PORTUGUESE GUINEA**, gin'ê. A colony of Portugal on the west coast of Africa, entirely surrounded on the land side by French territory. It includes the archipelago of Bijagoz, together with the island of Bolama on which is situated the capital, Bolama. Area, estimated at 13,940 square miles; population, variously estimated from 300,000 to 800,000. The principal port is Bissau. The chief products are wax, rubber, ivory, hides, and oil seeds. The imports in 1924 were valued at 61,570,808 escudos; exports at 49,192,929 escudos. The estimated public revenue for the same year was 17,519,538 escudos and the expenditure, 17,505,454 escudos.

**PORTUGUESE LANGUAGE AND LITERATURE**. See **PHILOLOGY, MODERN**.

**PORTUGUESE WEST AFRICA**. See **ANGOLA**.

**POSTAGE STAMPS, MEMORIAL**. See **CELEBRATIONS**.

**POST OFFICE**. See **UNITED STATES**.

**POTASH**. The United States, in the fertilizer year ended July 1, 1926, used more potash than in any other year on record. (See **FERTILIZERS**.) There was considerable activity in finding new sources of this material, as Congress had appropriated \$100,000 annually for five years for potash prospecting through core drilling, the work being done by the U. S. Geological Survey in coöperation with the U. S. Bureau of Mines. The Texas-New Mexico field was the first to be considered and after favorable preliminary work it was planned to undertake extensive explorations and investigations. During the year the prices of potash were increased, largely on account of higher ocean freights, but the prices in 1926 of the various salts, in comparison with prices in 1914, show that all except one grade, namely kainite, were selling below the pre-war prices. The imports of potash-bearing fertilizers in 1926 were as follows: Muriate of potash, 199,191 tons, valued at \$6,195,830, as against 161,028 tons, valued at \$5,193,866; potash sulphate, 69,873 tons, valued at \$2,826,438, as compared with 68,952 tons, valued at \$2,686,408, in 1925; kainite, 181,877 tons, valued at \$1,225,166, as against 182,828 tons, valued at \$1,173,125, in 1925; manure salts, 316,440 tons, valued at \$3,391,100, as against 384,232 tons, valued at \$3,676,620 in 1925. Other potash-bearing substances aggregated 48,333 tons, valued at \$497,545, as against 23,597 tons, valued at \$320,889, in 1925. The Russian Government reported the finding of large deposits of potash along the Kama River, in the Ural district, which could be exploited more cheaply than the material in Germany or France. Spain, during the year, exported to the United States, as did Italy, while Poland possessed deposits though lacking in the means to develop them. In the United States the American Potash and Chemical Corporation produced 21,000 tons of  $K_2O$  as 96 per cent  $KCl$ . In 1925, according to the U. S. Bureau of Mines, nine plants produced and sold potash in the United States, the crude potash amounting to 51,565 short tons and the available content of potash ( $K_2O$ ) to 25,448 tons, these amounts practically representing the sales, valued at the plants at \$1,204,024. See **CHEMISTRY, INDUSTRIAL**.

**POTATOES**. Data published by the International Institute of Agriculture, Rome, based on production estimates received from 20 countries in the northern hemisphere, not including the Soviet republics, indicated a reduction in yield

16.5 per cent below the corresponding figures in 1925, 6 per cent below the five-year average from 1920 to 1924, and 12.6 per cent less than the pre-war average. Heavy summer rainfall, followed by a prolonged drought, decreased the European production by nearly 735,000,000 bushels as compared with the preceding year. The yields reported for the more important potato-producing countries were as follows, in bushels: Germany, 1,131,665,800; Poland, 905,272,800; Czecho-Slovakia, 233,829,900; Belgium, 105,820,100; England and Wales, 100,128,000; Netherlands, 99,206,400; and Canada, 72,453,500. France for 1925 reported a yield of 558,312,800 bushels and the Soviet Republics of 1,627,000,500. The United States, as estimated by the U. S. Department of Agriculture, produced in 1926, 357,800,000 bushels on 3,163,000 acres or at the rate of 113.1 per acre, as compared with 323,415,000 bushels on 3,092,000 acres or at the rate of 104.6 per acre. The average farm price on Dec. 1, 1926, was \$1.416 per bushel as against \$1.868 in 1925 and 62.5 cents in 1924. At these prices the total value of the crops for the three years was \$506,721,000, \$604,076,000, and \$263,312,000, respectively.

The leading potato-growing States and their yields were as follows, in bushels: Maine, 36,830,000; Michigan, 31,320,000; Minnesota, 29,800,000; New York, 29,016,000; Wisconsin, 27,140,000; and Pennsylvania, 22,176,000. Of these States, Minnesota had the largest and Maine the smallest acreage. The average farm price on Dec. 1, 1926, in the different States ranged from 95 cents per bushel in Washington to \$2.50 in Florida. In the year ended June 30, 1926, the United States exported 1,824,000 bushels and in the preceding fiscal year 3,653,000. The imports for the two years were 325,207,000 pounds and 28,653,000 pounds, respectively. The early potato acreage in Alabama, Florida, Louisiana, South Carolina, and Texas was reported at 80,640 acres as compared with 72,060 harvested in 1925. In ten States growing the early crop, including Virginia, usually planting over 90,000 acres, the total estimated area was 217,570 acres. Much of the crop in Florida and Texas was planted after February 15, which is considered late. The certified seed-potato production, due to low potato prices, dropped from the record crop of 7,372,800 bushels in 1924 to 3,744,360 in 1925. Of the 19 States reporting, Maine ranked first with over 5,000,000 bushels in 1924 and more than 1,750,000 in 1925.

After storing three cars of certified seed experimentally in New Orleans last year, the Louisiana Farm Bureau Federation purchased for its members 65 cars of such seed in the fall of 1926 for storage at Southern points, in readiness for planting in February, when shipments from northern States are made at the risk of freezing. Market potatoes inspected the past year by the Federal-State inspection service in Louisiana at an average cost of \$5.12 per car sold for cash on track at an advance of as much as \$125 per car over similar but uninspected stock. A record production of 1023½ bushels on one acre was unofficially reported as having been obtained on McDonald Island in the delta section of northern California.

**POTTER, WILLIAM.** American diplomat and at one time minister to Italy, died Apr. 29, at Philadelphia, Pa. He was born at Philadelphia, in 1852, and was educated at private

schools and the University of Pennsylvania. For several years he practiced law, and in 1890, President Harrison appointed him a special commissioner of the Post Office and State Departments, to investigate a system of international marine post offices. One of the chief results of Mr. Potter's activities in this connection is seen in the present system of transatlantic mail distribution. In 1892 he was appointed minister to Italy, and he served until 1894. Under President McKinley he was offered the ambassadorship to Germany, but he declined it. From 1917 to 1919 he was the Federal fuel administrator for Pennsylvania. Mr. Potter had many activities in Philadelphia, being particularly concerned with the Jefferson Medical College, of which institution he was chairman of the board of trustees.

**POTTERY, ANCIENT.** See ANTHROPOLOGY.

**POULTRY.** See LIVESTOCK.

**POULTRY DISEASES.** See VETERINARY MEDICINE.

**PRAGMATISM.** See PHILOSOPHY.

**PRAIRIE PROVINCES.** The name applied to the three Canadian provinces of Manitoba, Saskatchewan, and Alberta. Total area, 758,817 square miles (Manitoba, 251,832; Saskatchewan, 251,700; Alberta, 255,285). Population, according to the census of 1921, 1,956,152 (Manitoba, 610,188; Saskatchewan, 757,510; Alberta, 588,454). For production, etc., consult the articles on the respective provinces.

**PRATT INSTITUTE.** A non-sectarian educational institution, at Brooklyn, N. Y.; founded in 1887, and composed of four schools: Fine and applied arts, household science and arts, science and technology, library science. The 1926 fall enrollment was 4262, divided as follows: Arts, 1498; household science, 876; science, 1861; library school, 27. There were 175 members on the faculty, and 79 special lecturers. The library contained 140,000 volumes. President, Frederic B. Pratt.

**PRESBYTERIAN CHURCH.** The Presbyterian Church, with the Reformed Churches, rests on features of the Reformation brought forward by Zwingli and Calvin. It consists of bodies in the United States, the British Isles, and elsewhere, following the doctrinal and ecclesiastical system developed in Holland and France and more fully in Scotland under John Knox. The distinctively Presbyterian bodies of the United States are derived for the most part from bodies in Great Britain, but are in many respects similar to the Reformed churches in the United States, sprung from parent bodies in other parts of Europe, and particularly in Holland. The following organizations in the United States bear the Presbyterian name: Presbyterian Church in the United States of America; Presbyterian Church in the United States (South); Cumberland Presbyterian Church; United Presbyterian Church; Colored Cumberland Presbyterian Church; Reformed Presbyterian Church, General Synod; and Associate Synod of North America, also known as the Associate Presbyterian Church. The Presbyterian churches of the United States are affiliated in general with the Alliance of Reformed Churches Throughout the World, an organization to carry on international activities in which the members take a common interest; and with the General Council of the Presbyterian and Reformed Churches in America, a similar organization of purely American scope.

Steps were taken at a meeting of the American section of the World Alliance at Richmond in 1925 to effect a union of the world and American bodies.

**PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA.** This is the largest body of the denomination, and is nationally organized in every State of the Union, with official mission stations in Alaska, Cuba, Porto Rico, and foreign lands. It comprised, in 1926, 46 Synods and 299 presbyteries. The annual General Assembly met in 1926 in Baltimore, Md., May 27-June 2. Statistics for the current year show that there were 9990 ministers, 48,416 elders, 20,498 deacons. Churches numbered 9565 and communicants 1,909,111, an increase of 35,252 over 1925. Sunday-school membership totaled 1,580,780, a decrease of 15,479. The amount of \$61,186,722 was contributed for all purposes, of which \$5,143,129 was devoted to national missionary work, \$4,069,695 to foreign missionary work, \$2,251,482 to Christian education, and \$44,731,062 to congregational expenses. The denomination maintains 56 colleges and 13 theological seminaries. The official medium of the denomination is *The Presbyterian Magazine* (monthly). Privately owned Presbyterian periodicals are *The Presbyterian Advance*, *The Presbyterian Banner*, and *The Presbyterian* (all weekly). The Rev. William Oxley Thompson, D.D., LL.D., president emeritus of Ohio State University, was moderator of the General Assembly in 1926-27. The chief permanent officer is the Stated Clerk, who in 1926 was the Rev. Lewis S. Mudge, D.D., LL.D., 518 Witherspoon Bldg., Philadelphia, Pa.

**PRESBYTERIAN CHURCH IN THE UNITED STATES (SOUTH).** This division of the Presbyterian denomination covers the territory commonly known as the Southern States. It was composed in 1926 of 17 Synods and 91 Presbyteries, with 3601 organized churches and 2235 ministers. The ruling elders numbered 15,323, and deacons 16,521. The total church membership was 462,177. The Sunday school enrollment was 417,569. The contributions for the year were: Current expenses \$9,737,804, a gift of \$20.87 per capita; and benevolences, \$5,477,626, a gift of \$12.04 per capita, making the total gift per member \$32.91. This church had sent out and was supporting 516 missionaries in six districts, Africa, Brazil, China, Japan, Korea, and Mexico. These missionaries were assisted by 3278 native workers. In these six countries there were 48,455 church members and 61,866 members of Sunday schools. The office of the General Assembly and Bureau of Vacancy and Supply is located in Dallas, Tex. The Rev. J. D. Leslie, D.D., LL.D., was Stated Clerk and Treasurer.

**PRESBYTERIAN CHURCH OF NORTH AMERICA, UNITED.** A branch of the Presbyterian Church formed by the union in Pittsburgh in 1858 of the greater part of the Associate Synod (Secession) and the Associate Reformed Synod (Secession and Covenanters). It represents the earlier covenanters and secession movements of the denomination in Scotland, and inherited from them whatever was distinctive in the views and usages of the two branches. In organization and government it is in accord with other Presbyterian bodies, having the same courts—session, presbytery, synod, and general assembly—and observing the same general methods of baptism, admission to church membership, and ordination to the ministry. The General Assembly con-

vened in Sharon, Pa., May 26, 1926. On that date there were 13 synods, 58 presbyteries, 911 congregations, 966 ministers, 4937 ruling elders, and a church membership of 170,650 in the United States. The total membership, including missionary fields, was 227,125. The Sabbath School enrollment was 180,574; there were 1056 young people's societies, with a membership of 31,838; and 1737 missionary societies. The average pastor's salary was \$2266; congregational expenses \$4,388,493; total contributions \$7,049,275, an average per member of \$41.30; missionary contributions \$2,311,788, average per member \$13.54. During the year, new houses of worship were erected at a cost of \$1,472,986. Six colleges and two theological seminaries are maintained by the church, and in 1926 there were 118 theological students. The total contributions of the New World Movement, completed Apr. 1, 1926, were \$7,916,976. During this period there was an increase of 123 foreign missionaries sent into the field. The official organ of the Church is the *United Presbyterian*, a weekly, published at Pittsburgh, Pa. R. A. Hutchinson, D.D., Pittsburgh, was the Moderator of the General Assembly and D. F. McGill, D.D., Bellevue, Pa., was Stated Clerk.

**PRESIDENTS, COLLEGE.** See UNIVERSITIES AND COLLEGES.

**PRICES.** See FINANCIAL REVIEW.

**PRIESTLEY CELEBRATION; PRIESTLEY MEDAL.** See CHEMISTRY, INDUSTRIAL.

**PRIMITIVE METHODIST CHURCH.** See METHODISTS, WESLEYAN.

**PRINCE EDWARD ISLAND.** A Maritime Province of Canada; the smallest province in the Dominion, situated at the mouth of the Gulf of St. Lawrence and separated by Northumberland Strait from the mainland of New Brunswick and Nova Scotia. Area, 2184 square miles; population, according to the census of 1921, 88,615. The capital is Charlottetown, with a population of 12,347. The chief industries are agriculture, stock raising, fishing and the breeding of silver foxes. For particulars of agriculture and livestock, see under CANADA. The value of pelts marketed and live foxes sold for breeding purposes in 1925 was estimated at \$3,000,000. The fishing season of 1925 showed a considerable falling off from that of the preceding year, notably in lobsters. The revenue for 1924 was \$676,004 and the expenditure \$699,160. The public debt on Dec. 31, 1924, was \$1,951,663, from which should be subtracted \$775,791 standing to the credit of the province at Ottawa. The province is under a lieutenant-governor and a legislative assembly of 30 members, elected for four years, a property qualification being required in the case of one-half the members and the other half being elected by universal male and female suffrage. Lieutenant-governor, Frank R. Heartz; Premier and Attorney-General, J. D. Stewart; Secretary-Treasurer and Minister of Agriculture, J. H. Myers; Public Works, J. A. Macdonald; Ministers Without Portfolio, J. W. P. McMillan, Murdock Kennedy, Adrian Arsenault, James A. McNeil, and Leonard Wood.

**PRINCETON UNIVERSITY.** A non-sectarian institution for the higher education of men at Princeton, N. J., founded in 1746. The 1926 fall enrollment totaled 2513, which included 2303 undergraduates and 210 graduate students and fellows. There was a registration of 100 in the 1926 summer session. The faculty

numbered 289. Among the 34 appointments made were those of T. J. Wertenbaker as Edwards Professor of American History, Oswald Veblen as H. B. Fine Research Professor of Mathematics, and G. M. Harper as Woodrow Wilson Professor of Literature on the Edward W. Bok foundation. Changes in the charter of the University provided, instead of a fixed membership of 35 of the board of trustees, a board of not less than 23 nor more than 40, and the required number of New Jersey resident members of the board was reduced from 12 to 8. The total number of books in the library was 600,000, not including pamphlets, broadsides, manuscripts, etc. By the will of David Paton, Egyptologist, his library of 2900 volumes was left to the University with a fund of \$22,400 for maintenance. The Garrett collection of Arabic manuscripts was increased by 500 items of great value purchased from the Baroody and Widgery collections.

A summer school of geology and natural resources was organized by the university under a council consisting of representatives of the British and United States Geological Surveys, the Smithsonian Institution, the Canadian Ministry of Mines, the American Museum of Natural History, the Natural Parks Service, the Pullman Co., and several railroads. The object is to facilitate for American and European students the study of the geology and natural resources of North America, the party of 20 traveling 10,000 miles in a specially constructed sleeping, dining, and lecture car provided by the Pullman Co. The party was conducted by Princeton professors, assisted by local authorities at various points through the North, Northwest, West, and Southwest.

Building operations for the year consisted of the completion of Eno Hall, the psychological laboratory, and the buildings of the artillery department, the restoration of West College to its original form and its extension, and the beginning of an extension to the graduate college. The national alumni association celebrated on alumni day, February 22, the centennial of its founding in 1826 with James Madison as first president. In commemoration of the sesquicentennial of the Declaration of Independence, the graduate council of the national alumni association issued at commencement a bronze plaque in honor of Richard Stockton, 1748, Benjamin Rush, 1760, and President John Witherspoon, the three Princeton signers of the Declaration, and exercises were held duplicating those of 1776 when the Declaration was publicly proclaimed at Nassau Hall.

An important development of the new plan of study for upper-classmen (see 1925 YEAR BOOK) was the arrangement by which a student of high attainment may be relieved of one course in order to devote more time to his particular field. The new endowment known as the Princeton Fund reached during the year the total of \$5,000,000. For an addition to the gymnasium, John D. Rockefeller, Jr., made a gift of \$150,000. President, John Grier Hibben, Ph.D., Litt.D., LL.D.

**PRIVATE BANKS.** See STATE BANKS.

**PROHIBITION.** Any discussion of Prohibition in the United States must be accompanied by many qualifications, and generalizations are, necessarily, far from valuable or useful. It is difficult to say that the Prohibition sentiment is waxing or waning. In New York City it was

realized there never had been Prohibition; in certain parts of the South there never was anything else. Accordingly, the events of the year lend themselves to a variety of interpretations. Newspaper polls did or did not show anything; State referenda were or were not conclusive; debates did or did not convince anybody.

There was only one indication that people could agree about Prohibition, and that was shown in December when almost all quarters joined in denouncing the government's poisoning of industrial alcohol. The heavy toll of alcohol deaths over the Christmas holiday led to severe denunciations of the Treasury Department chemists for failing to find less deadly substances with which to denature alcohol. However, the only assurance emanating from the Treasury was the statement of Lincoln C. Andrews, Assistant Secretary of the Treasury in charge of Prohibition enforcement, that the practice would be continued until the discovery of an effective non-poisonous substitute. The government was attacked in the Senate by Senators Edwards of New Jersey and Copeland of New York and in the House of Representatives by Messrs. Celler and Fairchild. General Andrews declared, further, in the government's defense, that the new formula, No. 5, being used, contained 4 per cent of wood alcohol, and as such was a greater protection to the consumer than anything hitherto used in that "anybody by the taste and smell could know that they were using denatured alcohol."

Senator Edwards cited the following deaths during the Christmas season, which he attributed to "legalized murder by the Government in poisoning alcohol": New York, 730; Philadelphia, 300; Boston, 145; Chicago, 328; St. Louis, 56; Columbus, 8; San Antonio, since June 1, 3; Omaha, 10; Harrisburg, 6; Detroit, 121; Los Angeles, 30; Minneapolis, 28; Seattle, 23; Pittsburgh, 130.

Other developments in the year's history follow:

**ENFORCEMENT.** The Assistant Attorney General in charge of the Division of Prohibition reported signs of progress in the enforcement of the act over the fiscal year ending June, 1926. For example, the number of permanent injunctions was 1150 higher than for the previous year; pending cases were reduced from 24,684 to 20,749; there were 44,492 cases commenced during the year, or 6251 less than the number for the previous year; acquittals during the year numbered 1303, or a reduction of 502 from the previous year.

The government appeared more successful in its attempts to cope with rum smuggling by water-craft. During the year 330 American ships with cargo and 519 American ships without cargo were seized. This first figure should be compared with the 516 loaded boats seized during the year previous. As for foreign ship seizures, 33 ships were captured, of which 25 were of British registry.

The department had participated in two international conferences relating to liquor smuggling. The first was held in Washington in August, 1925, with representatives of Canada. Here regulations were drafted making more completely effective the Canadian-American convention of June 6, 1924. In June, 1926, a similar conference was held with Mexican representatives; the purport was the drafting of regula-

tions to make effective the convention of Dec. 23, 1925.

Also, there was signed on Mar. 4, 1926, a convention with Cuba similar to these two mentioned above. This note from the Assistant Attorney General's report is interesting:

"There are continued evidences of increasing coöperation on the part of foreign governments in connection with the suppression of the rum-smuggling traffic. During this year, our government received an invitation from the British government to attend a conference at London, where the problem should be frankly discussed. This invitation was accepted. The Honduran government has likewise indicated a desire to prevent the use of its flags by liquor runners."

SENATE HEARING. The outstanding event of the year in the history of Prohibition was the hearing conducted before a sub-committee of the Judiciary Committee of the Senate, Apr. 5-24. Its purpose was to ascertain public sentiment on five bills then pending, whose purport was modification in one form or another. The following Senators sat for the committee: Harrel of Oklahoma; Reed of Missouri; Means of Colorado, Walsh of Montana, and Goff of West Virginia. For the "wets," Senators Bruce and Edge made out notable cases. Senator Bruce charged Prohibition with bringing the church into politics; enforcing the puritanical point of view of a minority upon a whole people, encouraging lawlessness, and depriving the government of a valuable source of revenue. He accused Prohibition of being responsible for an increase in deaths from alcoholic poisoning, and pointed out the reprehensible effect in producing a nation of heavy drinkers. Representatives of the American Federation of Labor urged the legalization of the use of light wines and beer. One spokesman declared that while organized labor was opposed to the saloon, "the present state of affairs must be improved upon, or we will be in a state of chaos."

In general, the consensus of opinion pointed to the failure of enforcement. This point of view was given startling confirmation in the testimony of two important government officials, Gen. Lincoln C. Andrews and Emory R. Buckner, United States District Attorney for the Southern District of New York. General Andrews' testimony ran along these lines: Enforcement was proving a failure, as evidenced by the facts that smuggling was going on unchecked across the Mexican and Canadian frontiers; the chief source of supply was not being dried up—i.e., in the diversion of industrial alcohol; corruption has been rampant in the Prohibition unit. General Andrews said that fully 2,000,000 were at present engaged in the illegal alcoholic traffic, and that there were between 40,000,000 and 50,000,000 drinkers. He closed by declaring that the legalized sale of beer, under government control, would aid enforcement. Mr. Buckner gave point to one of General Andrews' statements by charging that fully 60,000,000 gallons of industrial alcohol were being utilized by the bootleg trade for denaturing and sale among the drinking public.

The marshalling of witnesses by the "dry" forces was impressive. A group of representatives appeared for the Women's National Committee for Law Enforcement. Another group represented the Salvation Army. Mrs. Ella A. Boole appeared for the National Woman's Christian Temperance

Union. Some churches, too, were completely represented. The tenor of the dry sentiments seemed to agree on the beneficent influences of the enforcement act in checking poverty, uplifting the position of women, improving moral, social and industrial conditions, etc. Rather than supporting the modification of the law, the dries sought to have more "teeth" put into it. Mrs. Mabel Walker Willebrandt, Assistant Attorney General in charge of Prohibition enforcement, urged the strengthening of the Volstead act, heavier penalties for commercial violations, and a greater number of Federal judges. Prof. Irving Fisher of Yale appeared with an array of statistics to indicate that even if the government had to spend a billion dollars a year for enforcement there would still be a gain, inasmuch as Prohibition's net blessing to the American people was six billions. Professor Fisher's argument is presented in greater detail elsewhere.

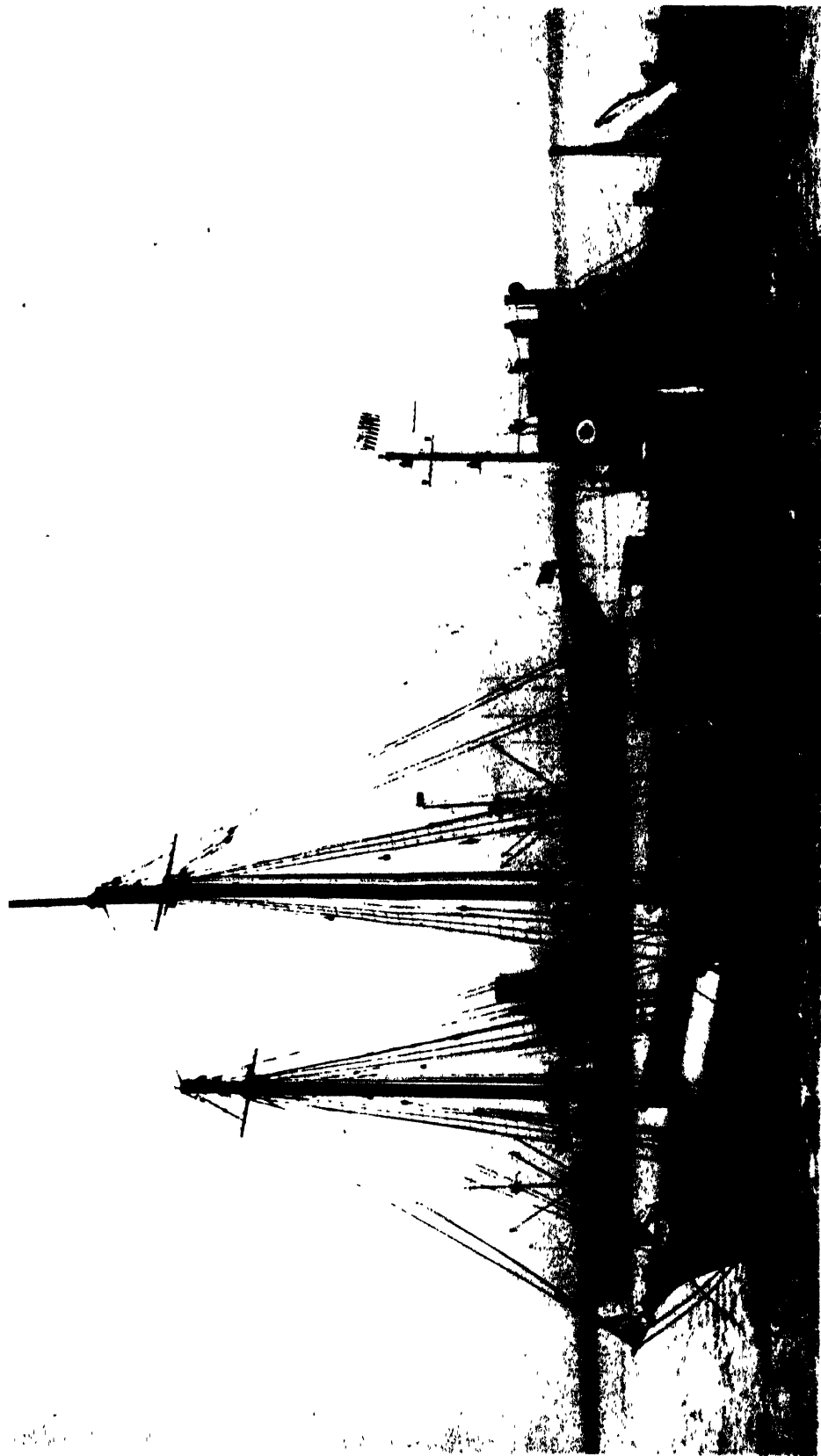
The result may be given at this point: Neither side succeeded in impressing the other, and the only thing apparent was the general opinion that enforcement was unsuccessful in the large cities. As for clarifying the issue, it is to be doubted that this elaborate forum availed one tittle.

STRAW VOTES. In the spring, a group of newspapers occupied themselves with an attempt to gauge popular opinion on the question. The final totals as presented were 2,800,000 votes for amendment or modification of the eighteenth amendment and 546,000 for retention and enforcement. The largest poll was taken by the Newspaper Enterprise Association, with 375 papers coöperating. The results of this test were summarized as follows: For retention and enforcement of Prohibition, 329,274; for repeal of the Prohibition amendment, 545,839; for Volstead law modification to allow wine and beer, 864,949.

The voting showed: That almost 50 per cent of those casting ballots favored modification; that the "wet" strength amounted to 81 per cent of the total; that the "drys" led in 83 cities, while in 79 cities of less than 15,000 population the "wets" won; that only two States, Kansas and South Carolina, turned in Prohibition majorities; that in Arizona, Florida, Georgia, Michigan, Tennessee, and Texas the "wet" majority was two to one or less; that the figures indicated a definite trend in favor of modification of the Prohibition act.

It is true enough that polls are interesting; it is doubtful that they are particularly important. First, the voting is not safeguarded; second, the "drys" may have boycotted the whole affair; third, there is little likelihood that the rural districts were adequately represented. But one may compare this poll with another poll. In 1922 *The Literary Digest* conducted a similar vote. Of the 922,383 ballots cast, 356,193 (38.6 per cent) were for enforcement, 376,334 (40.8 per cent) were for modification, and 189,856 (20.6 per cent) were for repeal. In four years, then, the Prohibition sentiment dropped from 38.6 per cent of the votes cast to 19 per cent.

NOVEMBER ELECTIONS. In the November elections, eight States formally voted on the question of Prohibition; these were New York, Illinois, Wisconsin, and Nevada, which recorded opinions on the question of national Prohibition, and Colorado, Montana, California, and Missouri, which voted on the repeal of their State



*Wide World Photos*

### ENFORCING THE PROHIBITION LAW AT SEA

THE SCHOONER "CONSUELO II" WITH A CARGO OF 5000 CASES OF LIQUOR, CAPTURED BY THE UNITED STATES COAST GUARD, AT ANCHOR IN NEW YORK HARBOR WITH THE COAST GUARD CUTTER "PERRY."





enforcement laws. It is interesting to note that these eight States included one-fourth of the population of the country. The results were as follows: For repeal, New York, Illinois, Wisconsin, Nevada, Montana; against repeal, California, Colorado, Missouri. In New York the vote was 1,760,070 for and 598,484 against, on the question, "Should the Congress of the United States modify the Federal act to enforce the eighteenth amendment so that the same shall not prohibit the manufacture, sale, transportation, importation, or exportation of beverages which are not in fact intoxicating as determined in accordance with the laws of the respective States?"

Despite the vote, it is important to note that in the same elections the "drys" maintained their control of the House of Representatives, the division being, 320 "drys," 109 "wets," and a handful of doubtfuls.

None the less, this heavy vote in favor of modification presaged to the observers important political happenings. It was obvious that Prohibition was an outstanding political issue, and that such a heavy turn-out of votes must make politicians pay heed to the opinions of a large body of the electorate. The "drys" seemed little ruffled. Their leading advocate, Wayne B. Wheeler general counsel and superintendent of the Anti-Saloon League of America (q.v.), insisted that in New York the "drys" abstained from voting; that changes in the Volstead definition of intoxicating liquors were out of the question; and that the State votes were only "wet" propaganda for the purpose of bringing the Prohibition law into disrepute.

DEBATES. In the debates that have begun to characterize the history of Prohibition (one must go back to the slavery question for an analogy in American political annals), the observer is in a quandary as to the exact location of the truth. The whole affair has been invested with an extraordinary scientific air. There are columns of statistics on one side, countered by columns of statistics on the other. (Needless to say, the sources of the statistics are often absent, and thus they, too, help to becloud the issue rather than clarify it.) One of the most cogent pro-Prohibition arguments put forward was that to be found in Prof. Irving Fisher's book, *Prohibition at its Worst*. Professor Fisher's argument was, in fine, that while enforcement was startlingly lax, and while there were marked expressions of dissent in certain districts, Prohibition "at its worst" was far better than the period prior to its adoption. Professor Fisher's conclusions were thus presented by himself: 1, the present situation of imperfect enforcement is intolerable; 2, conditions are not, however, as bad as commonly represented; 3, Prohibition has accomplished much good hygienically, economically and socially; 4, The "personal liberty" argument is largely illusory; 5, we cannot accomplish what the opponents of Prohibition really want by amending the Volstead act without thereby violating the eighteenth amendment; 6, to repeal the eighteenth amendment is out of the question; 7, to nullify it would mean disrespect for law, of the most demoralizing kind; 8, therefore, the only practicable solution is to enforce the law; 9, enforcement is a practical possibility. There is a painstaking examination of statistics cited particularly by the Moderation League, with the conclusion that the

consumption of alcohol to-day "is certainly less than 16 per cent, and probably less than 10 per cent, and possibly less than 5 per cent, of pre-Prohibition consumption." Statements of this order add to the current bewilderment. Where did Professor Fisher get his figures? And if the case be as he presents it, how can he reconcile such a belief with his previously expressed one that the present state of enforcement is intolerable? What, too, is to be done with the Moderation League's investigations which presume to disclose that in 1925 drunkenness increased 100 per cent over 1924; that in 509 places, arrests for drunkenness in 1925 increased 129 per cent over those for 1920; and, finally, that conditions in the "dry" States are worse to-day, as compared with 1914, than are conditions in the "wet" States. The Moderation League, too, cites figures to indicate the increase of drunkenness among drivers and the increase in drinking among young persons. Merely as an example of the curious pass to which the whole question has been brought, one may cite the fact that *The Literary Digest* made a survey among the young of the country; its conclusion was that the younger generation of Americans was not drinking.

One must turn to the lucid writings of that cogent political thinker, Walter Lippmann, for a way out of this jungle. In the December *Harper's* he cuts through the whole wild tangle of this debate to point out that while the eighteenth amendment cannot be repealed because of peculiar constitutional provisions, there would not be the slightest chance of its passage to-day; that popular nullification of the amendment is not treasonable (*vide* the histories of the fugitive slave law and the fourteenth and fifteenth amendments); that no law is enforceable when popular sentiment is against it; and that we may well leave the final determination of enforcement to the wisdom of the Supreme Court, which has always found a means of reconciling reason with the letter of the law.

CHURCH DIFFERENCES. Early in the year, Dr. James Empringham, National Secretary of the Episcopal Church Temperance Society, made a statement that seemed to indicate profound discord in the Episcopal churches. As a result of a referendum and a survey, Dr. Empringham reported that his society stood as follows: 1, in favor of a modification of the Volstead law to permit the sale of beer and wine, because the effect of Prohibition has been to put an end to scientific temperance teaching; 2, it [Prohibition] has resulted in increased drinking among young people; 3, it has discouraged the consumption of wine and beer and increased the demand for distilled liquors, which to-day are mostly poisonous; 4, it has brought about disrespect for laws; 5, it is class legislation, discriminating in favor of the rich.

"In our survey we found intemperance increased," the statement said. The report resulted in interested statements from church dignitaries. *The New York Times* canvassed the Protestant Episcopal bishops, and found that five stood for modification, while eighteen were opposed. Bishop Manning of the New York diocese repudiated the survey as being not representative, and declared it as his belief that the "Prohibition law, properly enforced, will make us healthier and better people," and that

"these laws can be and ought to be enforced, and are being more and more enforced."

Other church groups immediately made public their views. Baptist, Reform Church, Presbyterian, Methodist Episcopal clergymen attacked modification. The statement of Dr. S. Parkes Cadman, President of the Federal Council of Churches of Christ in America, had this to say: "I am in favor of enforcing the law as it stands and asking every loyal-hearted citizen to support it. We have never tried Prohibition yet. I refuse to consent to dismiss it, until it has been fairly tried." Two cardinals of the Roman Catholic Church made significant statements that indicated the official attitude of that church. Cardinal Hayes said, "if immorality flows out of intemperance, it must be prohibited, but there is no reason why you should put Prohibition on 100,000,000 people to punish the intemperance of individuals." Cardinal O'Connell's attitude was largely similar.

**ADMINISTRATION.** Toward the end of the year, General Andrews announced that he planned to go before Congress with a proposal for the creation of a government corporation to manufacture and distribute medicinal whisky. A Department of Treasury statement, in announcing the project, pointed out the following reasons for the step; 1, it would mean a saving of about \$1,000,000 a year in the administration of the Prohibition law; 2, pure whisky for the patient on doctor's prescriptions; 3, a reasonable cost to the purchaser; 4, it provides for the replenishment of the supply of medicinal spirits, as required by law; 5, it does away with the present pressure of salesmanship in a competitive market trying to sell privately owned liquor, and this reduces the amount sold to the natural and honest requirements of the medical profession; 6, it cripples the bootleg industry. General Andrews pointed out in his statement that, with respect to medicinal whisky, 12 states prohibit the prescription of any intoxicating liquors, while 10 other States allow only the prescription of pure alcohol.

**SUPREME COURT.** In November, the court handed down another decision for the purpose of clarifying the Prohibition enforcement act. By a unanimous vote it approved of a ruling of the Louisiana Supreme Court that a violation of State and National Prohibition laws was a criminal offense against both governments, and hence liable to punishment by agencies of both. On November 29, by a vote of 5 to 4, the Supreme Court further went on record as approving the Federal law limiting the prescription of whisky by physicians to one pint every ten days or "three tablespoonfuls per day." The case was originally brought up by Dr. S. W. Lambert of New York, whose contention was that it interfered with the practice of medicine. Those who voted in the affirmative were Chief Justice Taft and Associate Justices Brandeis, Holmes, Van Devanter, and Sanford. The negatives were cast by Associate Justices Sutherland, McReynolds, Butler, and Stone.

**FOREIGN.** In the fall, the people of Norway in a popular referendum voted to go "wet" by a vote of 525,423 to 415,637. The vote was held for the purpose of retaining or rescinding a limited Prohibition law then on the statute books. It is curious to relate that the existing law allowed the sale of liquor with an alcoholic content as great as 21 per cent. Prohibitionists,

however, pointed out that the vote was to a large extent guided by economic exigencies, in that under the old statute the consumption of French, Spanish, and Portuguese wines had been barred. These countries threatened to abrogate their "most-favored-nation" treaties with Norway if the ban continued, with the result, apparently, that discretion became the better part of valor. See *NORWAY*, under *History*.

In the Province of Ontario, Canada, in the general election of December, Premier G. Howard Ferguson, Conservative, won a great victory for the "wets." His party's platform, in brief, stood for the enactment of a law authorizing the sale of liquor in government stores, subject to local option, and for another law permitting all persons over 21 to purchase liquor or beer at reasonable cost from these government stores. Premier Ferguson's Conservative followers elected 75 of their party to the Provincial House, carrying all of Toronto's 15 seats. The result of this election will be that after Jan. 1, 1927, in all of the Canadian Provinces, with the exception of the Maritime, the government will control the liquor trade.

**PROTESTANT EPISCOPAL CHURCH.** A religious denomination representing the Anglican communion in the United States, of which the Church of England is the parent church, and which was brought to this continent with the Jamestown colonists in 1607. The first American service from its Book of Common Prayer, however, was held in the year 1579, on the first Sunday after Trinity, on the Pacific coast near the present city of San Francisco, when the Rev. Francis Fletcher, chaplain of the fleet under command of Sir Francis Drake, conducted service, preached a sermon, and celebrated Holy Communion. The Virginia colony was permanently established with regular ministrations of the Church in 1607. Despite the absence of a colonial episcopate, the Church, under English clergymen, maintained a firm foothold for 170 years. In 1785, the first American bishop was consecrated in Scotland, and three years later two more were appointed, and from these all of the American bishops have succeeded. The Church completed its organization at a convention in Philadelphia in October, 1789, at which the constitution and name were adopted, and a Book of Common Prayer was set forth. The Episcopal Church maintains active missionary enterprises in Japan, China, Liberia, Mexico, the Philippines, Alaska, Hawaii, Brazil, the Canal Zone, Cuba, Porto Rico, Haiti, the Dominican Republic, the Virgin Islands, and Palestine, and is represented by establishments in 10 important European centres. Its domestic missionary activities include work among the foreign-born, American Indians, negroes, mountaineers, mill communities, and a wide range of social service. Five colleges and many educational institutions represent the interest of the Church in this field.

The government of the Church centres in a General Convention which meets triennially. The affairs of the Church between sessions are conducted by a National Council made up of 16 representatives elected by the General Convention, of whom four are bishops, four priests, and eight laymen, supplemented by eight others named by the eight provincial synods. This Council conducts its work with the aid of three major departments, missions, religious education,

social service, and three others, finance, publicity, and field. The Council is also the Board of Directors of the Domestic and Foreign Missionary Society, conducted through the Department of Missions and Church Extension. The presiding bishop of the Church, elected by the General Convention, is also president of the National Council. The whole work of the Church is incorporated in a general church programme adopted triennially, and in 1925 involving an annual expenditure of \$3,959,899. Of this sum the total expenditure for missions, domestic and foreign, was \$2,575,646, divided in practically equal amounts between the domestic and foreign fields. The number of missionaries who were supported in whole or in part by appropriations through the Department of Missions during the year 1925 was as follows: American missionaries abroad, men 201, women 242; native staff abroad, men 1451, women 714; American missionaries in the United States, men 571, women 128; native staff in the United States, men 94, women 5, making a total of 3406 persons representing the missionary staff in 1925. During the year 57 missionaries were appointed.

In 1926 there were reported 6159 clergy, an increase of 19 over the preceding year. The total number of communicants was 1,200,987, an increase of 7666 over the preceding year. The total contributions to all causes within the Church were \$43,313,716, an increase of \$1,567,660 over the preceding year. In 1925 there were 6000 Church schools, with 494,413 pupils, directed by 57,290 Sunday school teachers, an increase of 15,000 over 1924. The 15 theological seminaries of the Church reported a decrease of 14 in the number of candidates for the ministry.

The National Council is assisted in its work by a group of cooperating agencies. The Woman's Auxiliary, through a thank offering each triennium, contributes nearly \$1,000,000 in that period for its work. Other cooperating agencies are the Brotherhood of St. Andrew for men; the Daughters of the King; the Guild of St. Barnabas for nurses; the Churchwomen's League for Patriotic Service; the Knights of St. Paul, the Knights of St. John, the Knights of Washington, and the Order of Sir Galahad, for boys; for girls and young women, the Girls' Friendly Society in America; for young people in general, the Young People's Fellowship. The Church Mission of Help is notable among affiliated organizations dealing with a wide range of Church interest and activity. The Church publishes *The Spirit of Missions*, *The Church at Work*, and *Bulletins* of the National Council, together with material dealing particularly with each department of the National Council. Six independently owned publications make an important contribution to the cultural life of the Church: *The Living Church*, weekly; *The Churchman*, weekly; *The Witness*, weekly; *The Southern Churchman*, weekly; *The American Church Monthly*; and *The Chronicle*, monthly. In addition there are 80 monthly diocesan publications in the home field and a score of others in the mission field.

The year 1926 was marked by the death of only one among the bishops of the church, the Rt. Rev. Edward William Osborne, D.D., (q. v.), retired, sometime bishop of the diocese of Springfield. The Rt. Rev. Theodore Payne Thurston, D.D., Bishop of Oklahoma, resigned, and the Rt. Rev. Eugene Cecil Seaman, D.D., of North Texas, was appointed by the presiding bishop of

the church as his substitute until an election should be held. The Rt. Rev. Henry St. George Tucker, D.D., sometime bishop of Kyoto, Japan, was elected bishop coadjutor of Virginia. The Rt. Rev. Edward Campion Acheson, D.D., suffragan Bishop of Connecticut, was elected bishop coadjutor of Connecticut. The Rt. Revs. Walter Mitchell, D.D., Frank W. Creighton, and Shirley H. Nichols, elected bishops at the New Orleans session of the General Convention in October, 1925, were consecrated during 1926. The Rt. Rev. John Thomas Dallas was elected bishop of New Hampshire and consecrated May 4, 1926. The Rev. Edward Trail Helfenstein, D.D., was elected bishop coadjutor of Maryland and was consecrated Dec. 28, 1926. The headquarters of the National Council are in the Church Missions House, 281 Fourth Avenue, New York City.

**PROTOPLASM.** See ZOÖLOGY.

**PROTOZOA.** See ZOÖLOGY.

**PROVENÇAL LITERATURE.** See PHILOLOGY, MODERN.

**PRUSSIA**, prûsh'â. A constituent republic of the German republic; a kingdom of the German Empire until the October revolution of 1918; proclaimed a republic Nov. 13, 1918. Capital, Berlin. Area, Oct. 1, 1925, 113,204 square miles, as compared with 135,134 square miles before the war; population, according to the census of 1925, 38,170,633, as compared with 40,165,219 in 1910. The later figures for area and population are exclusive of the Saar district, Eupen and Malmédy, and the territory of Upper Silesia which was ceded to Poland; showing a loss to Prussia, as a result of the Treaty of Versailles, of 21,645 square miles and a population of 4,601,626. The movement of population in 1924 was: Births, 812,278; deaths, 486,611; marriages, 273,054. The chief cities with their populations in 1925, according to provisional figures of that census year, were: Berlin, 3,931,071; Cologne, 693,266; Breslau, 550,313; Essen, 466,088; Frankfurt-on-Main, 458,422; Düsseldorf, 428,999; and Hanover, 414,108. The accompanying table from the *Statesman's Year Book* for 1926 shows the area under the principal crops and yield in metric tons for 1924:

	Acres	1924	Tons
Wheat .....	2,081,982		1,507,503
Rye .....	7,924,228		4,355,065
Summer barley .....	1,870,808		1,448,733
Oats .....	5,885,701		4,026,842
Potatoes .....	4,543,138		25,759,330
Hay (meadow) .....	6,887,184		11,050,636

In 1924 vineyards had an acreage of 40,035 with a yield of 11,810,308 gallons of wine valued at 29,581,803 marks. On Dec. 1, 1924, the livestock included: Cattle, 9,665,191; sheep, 3,827,040; swine, 11,426,238; goats, 2,569,460; horses, 2,681,641; and poultry, 43,820,095. The chief minerals are coal, lignite, iron ore, and salt. The railway mileage, which has been taken over by the federal government, is about 20,000. The government is under a diet and a state council, the members of the former being elected for four years by secret and direct ballot on the basis of proportional representation. The latter is elected by the provincial assemblies on the basis of one for every 50,000 inhabitants. The executive, which exercises the functions of the former king, is vested in the ministry, which is

appointed by the prime minister elected by the diet. As a result of the elections of Dec. 7, 1924, the following parties were returned: Social Democrats, 114; Centre (Catholics), 81; German National Party, 109; National Socialists, 11; German People's Party, 45; Democrats, 27; Communists, 44; Economic Party, 11; German Hanoverians, 6; and Polish Party, 2; total 450. The Prime Minister at the beginning of the year was Otto Braun (Socialist), appointed Apr. 4, 1925.

**PSYCHICAL RESEARCH.** A symposium on The Case for and Against Psychical Research was held under the auspices of Clark University, at Worcester, Mass., Nov. 29 to Dec. 11, 1926. The speakers included Prof. Joseph Jastrow of the University of Wisconsin; Dr. L. G. Crandon, the husband of the medium Margery; Dr. Walter F. Prince, of the Boston Society for Psychical Research; Prof. F. C. S. Schiller, of Oxford; Dr. Gardner Murphy, of Columbia University; Frederick Bligh Bond, English author and member of the British Society for Psychical Research; Margaret Deland, American novelist; and Prof. Hans Driesch, of the University of Leipzig. In addition, manuscript papers were read from Prof. William McDougall, Sir Arthur Conan Doyle, J. E. Coover, Mary Antin, and others.

The symposium brought out the customary range of opinion, from the absolute skepticism expressed by Jastrow, the religious conviction of Doyle, down to the attitudes of scientific "watchful waiting" expressed in different forms by McDougall and Prince.

Sir Arthur Conan Doyle's paper began the symposium with an attack on natural science, which was characterized as turning the universe into "a mere clockwork mechanical wonder swinging in a vast vacuum." Sir Arthur saw in the spiritualist interpretation of psychical phenomena a refuge for true believers in the religious nature of the universe. Toward experimental psychical research the English author expressed an attitude of half-scorn, seeing in it a rather external way of dealing with the problem.

"I consider," he said, "all this work of experimental psychic research, though very useful and necessary, to be a sort of supermaterialism which may approach but does not touch the heart of the subject. That heart is, in my opinion, a purely religious one. The ultimate aim of the whole movement is to afford earnest minds in this age of doubt and stress some method of gaining a knowledge of our duties and our destiny which shall be dissociated from outworn observances and conflicting faith, so that by actual contact with intelligences which are now above our own we may pick our path more easily amid the morass of religion. The ultimate result will be the union of science and religion, and such an increase of inspired knowledge as will lift humanity to a higher plane and send it reassured and comforted upon its further journey into the unknown."

Dr. L. G. Crandon, husband of the medium Margery, also made use of the religious argument, but not in the same way as Sir Arthur. He seemed to see in scientific psychical research a scientific way of proving the aspirations of faith, and thus obtaining something more satisfying than "the sleepy comfort of religion." He admitted, however, that a proof

100 per cent perfect cannot now be obtained, although he hoped for much greater proof in the future. Dr. Crandon expressed his belief in the authenticity of the creation of ectoplasm by mediums. Ectoplasm, he said, was the primordial substance of the world.

In contradistinction to the views of these two convinced believers in psychical phenomena may be cited the address of Prof. Joseph Jastrow, of the University of Wisconsin. Professor Jastrow showed himself a convinced opponent of any belief which accepts psychic phenomena as genuine. He saw the antecedents of present-day spiritualism in traditional occultism which believed in astrology, divination and other pseudo-sciences. He put the arguments for the truth of psychical phenomena in the same class with the arguments for the truth of witchcraft. Professor Jastrow did not oppose the experimental study of abnormal phenomena of the type called psychic, but he insisted that in all such experiments the experimenter, and not the medium, should be the one to exercise the control.

The paper of Prof. William McDougall and the address of Dr. Walter F. Prince were both more moderate in tone than the opinions of Dr. Crandon and Sir Arthur Conan Doyle. On the other hand, they did not put psychical research in the same class with witchcraft. Professor McDougall's manuscript address hinted at the possibility of the existence of ghosts, though not in supernatural form. He put it thus: "There has been gathered a very weighty mass of evidence indicating that human personality does not always at death cease to be a source of influence upon the living. I am inclined to regard as part of this evidence the occurrence of ghostly apparitions. It seems to me that in many of these experiences there is something involved that we do not understand at all, some causal factor or influence other than disorder within the mental processes of the percipient. I hold that a case has been made out, for clairvoyance, of such strength that further investigation is imperatively needed."

Professor McDougall pointed out that he was not convinced of the supernormality of any of these phenomena, but that he felt that science should investigate all alleged causes with the utmost impartiality.

Dr. Prince made a plea for more critical but sympathetic investigation. He thought that very possibly the alleged production of ectoplasm might be attributed to the inexperience of the European mind, not so keenly attuned to skepticism as was the American mind through long and sad acquaintance with fraud. Dr. Prince went on to say that he believed something convincingly true would arise from an investigation of spiritism, and that true psychic science would some day arise, just as astronomy did from astrology, and chemistry from alchemy. It was as foolish, he said, to use the "will to believe" the spiritistic hypothesis, as it was to use the "will to disbelieve" to reject it.

Dr. Prince declared that all psychical researchers are agreed as to the existence of these four types of phenomena: 1, Telepathy; 2, veridical apparitions; 3, mediumistic deliverances, and 4, psychometry, or the ability to recite during contact with a strange object facts true of a person connected with the object, yet not inferable from the object itself.

"Many scientific men have been convinced of ectoplasm," he added. "I have never seen any exhibition of it or heard any careful description which was in the least convincing to me. Whether there is a genuine product of that name I will not undertake to decide."

Frederick Bligh Bond hailed psychic science as the science of the future which will advance and make permanent human civilization. "Just as we have seen chemistry evolve from the obscure practices and superstitious beliefs of alchemy," he pointed out, "so the yet more vital science which is destined to determine the laws of the human soul in its relation to its material organism and environment is now forcing itself inevitably into the light, and already beginning to claim for itself the like measure of recognition which has been so painfully won by the sister sciences against the repressive forces of ignorance, intolerance, and reaction."

**BIBLIOGRAPHY.** New books on psychical research include the following: Harry Price, *Expériences Scientifiques avec un Nouveau Médium (Stella C)*; Henrietta Lovi, *Best Books on Spirit Phenomena (1847-1925)*; Sir Arthur Conan Doyle, *The Land of Mist*; Walter F. Prince, *The Psychic in the House*; Rudolph Tischner, *Der Okultismus als Natur und Geisteswissenschaft*.

**PSYCHO-ANALYSIS.** Psycho-analysis lost two leading workers by the deaths of Karl Abraham and James Glover. Dr. Abraham, who died Dec. 25, 1925, was perhaps the leading psycho-analyst in Berlin and he served as President of the International Psycho-Analytic Association. Dr. Glover was one of the best known English workers in the field. He died Aug. 25, 1926.

**FREUD BIRTHDAY ANNIVERSARY.** On the occasion of the 70th birthday of Sigmund Freud, the founder and leading spirit of the psycho-analytic movement, psycho-analysts from all over the world sent congratulations to Vienna. *The International Journal of Psycho-Analysis* (vol. vii) devoted a double number to the celebration of the anniversary, and printed a personal tribute to Freud by S. Ferenczi. From this tribute we select a paragraph as giving perhaps a better indication of the present state of the psycho-analytic movement than a multitude of abstracts of technical papers.

Having accorded Freud the most fulsome praise, Dr. Ferenczi turned to consider the personal relations between Freud and his fellow workers in the field. "Let me say then," he continued, "that there is scarcely one of us who has not had to listen occasionally to hints and exhortations from the master which sometimes destroyed magnificent illusions and at the first moment gave rise to a sense of injury and depreciation. At the same time I must testify that Freud often gives us perfect liberty for a long while and allows great latitude to individual idiosyncrasies before he decides to interpose as a moderating influence or to make decisive use of the means of defense at his command; he resorts to the latter course only when he is convinced that compliance would imperil the cause that is to him more important than anything else. Here he certainly admits of no compromise and is ready to sacrifice, even though with heavy heart, personal ties and hopes that have become dear to him. In these things he is as severe towards himself as towards others. He

watched with sympathetic interest one of his most gifted scholars until the latter advanced the claim that he could account for everything with his *élan vital*. Once, several years ago, I myself came forward with the theory that a death instinct would explain all. Freud's verdict was not favorable to the idea, and my faith in him enabled me to bow to his judgment; then one day appeared *Beyond the Pleasure Principle*, in which his theory of the interplay of death instincts with life instincts does far more justice to the manifold facts of psychology and biology than my one-sided conception could accomplish. The idea of organic inferiority interested him as a very promising beginning for the somatic foundation of psycho-analysis. For years he accepted its author's rather peculiar mode of thought as part of the bargain; but when it became clear that the latter was using psycho-analysis simply as a springboard for a teleological philosophy, Freud gave up all collaboration with him. For a long time he overlooked even the scientific gambols of one of his followers because he recognized his acute sense for sexual symbolism. The great majority of his adherents, however, have overcome the sensitiveness that is inevitable in this situation, and are convinced that all their legitimate personal efforts will sooner or later be accorded a place in Freudian psycho-analysis."

The paragraph we have cited is revealing in more than one sense. It indicates that not only is the one-type explanation (sex or libido) dominant in psycho-analysis, but that it is also a one-man science. Perhaps we may be allowed to cite in this connection an anecdote brought back from Vienna which describes the extreme reverence with which Freud is held among his disciples. An American reporter was discussing psychology with one of the "most brilliant younger disciples of Freud." Speaking of a certain work, the reporter remarked: "It is hard to find any book where every word is beyond question. No man is God." "No," the Austrian mused, "of course no man is God." Then he sat up suddenly and explained: "Yes, yes, one man is God—Freud." He pointed to his newly bought complete writings of Freud, in ten volumes. "Every word in these ten volumes is absolutely correct. Freud is 100 per cent correct. No—200 per cent. Every word Freud has written is absolutely correct. Every word Freud will write is absolutely correct." (We quote this anecdote from McDougall's preface to his *Outline of Abnormal Psychology*.)

All this is not altogether in dispraise of psycho-analysis. It has undoubtedly been the peculiar mission of psycho-analysis to direct attention to the dominant place that sexuality holds in our sub-conscious life. And just as it needs a certain amount of exaggeration to drive a truth home to the general public, so perhaps it needs the uncompromising energy of one man to prevent that truth from becoming too diluted. Hence Freud.

**BIBLIOGRAPHY.** New books on psycho-analysis include: Geraldine Coster, *Psycho-Analysis for Normal People*, and Maximilian Steiner, *Die Psychische Störungen der Männlichen Potenz: ihre Tragweite und ihre Behandlung*. The first named is a good general account of the movement, although it has been taken to task for its unorthodoxy by Freud's 100-per cent disciples. The second work is by a German sexologist, who

approached the problem of male sexuality from the medical point of view. The book carries a foreword by Freud. Other books of psycho-analytic character that should be mentioned are Horace Carncross, *The Escape from the Primitive*; Bronislaw Malinowski, *Crime and Custom in Primitive Society*; and Louis Waldstein, *The Sub-Conscious Self and Its Relation to Education and Health*. Among the important or interesting articles in the psycho-analytic press are the following (all in the *International Journal of Psycho-Analysis*, vol. vii): Karen Horney, "The Flight from Womanhood"; Karl Abraham, "The Psychological Relation between Sexuality and Alcoholism"; Ernest Jones, "The Origin and Structure of the Super-Ego"; and C. Müller-Braunschweig, "The Genesis of the Feminine Super-Ego."

**PSYCHOLOGY. NEWS OF MEETINGS.** The 26th annual meeting of the American Psychological Association was held at the University of Pennsylvania, Philadelphia, Dec. 28-30, 1926. Prof. Harvey A. Carr, of the University of Chicago, delivered the presidential address.

The Eighth International Congress of Psychology was held at Groningen, Holland, Sept. 6-11, 1926. Symposia were read on the following topics: Understanding and Explanation, by Dr. Binswanger of Kreuzlingen, Dr. Jaspers of Heidelberg, and Dr. Spranger of Berlin; Intensity of Sensations, by Dr. Boring of Harvard, Dr. Myers of London and Dr. Werner of Hamburg; Form Qualities, by Dr. Benussi of Turin, Dr. Koffka of Giessen, and Dr. Michotte of Louvain; Behaviorism, by Dr. McDougall of Harvard, and Dr. Pieron of Le Vésinet; Psychology of Primitive Races, by Dr. Bartlett of Cambridge, Dr. Lévy-Bruhl of Paris, Dr. Mayer of Heidelberg, and Dr. Storch of Tübingen; Religious Psychology, by Dr. Janet of Paris, and Dr. Leuba of Bryn Mawr. Other papers were read by Drs. Marbe, Spearman, Stern and Thurstone.

The twenty-third annual meeting of experimental psychologists was held at the University of Pennsylvania, Apr. 5-7, 1926. The first day of the meeting being the 125th anniversary of the birth of Gustave Fechner, a number of papers were read on psycho-physics and its relation to present-day psychology.

A meeting of mid-Western experimental psychologists was held at Northwestern University, Evanston, Ill., May 7-8, 1926. The meeting was attended by 100 psychologists, and was the first meeting of its kind for over 20 years. There were discussions of experiments on the psychophysiology of sleep, the psychology of athletics, hypnotism, and a number of topics in applied psychology.

**GENERAL.** As Prof. Madison Bentley pointed out in his presidential address of 1925 to the American Psychological Association (published in *Psych. Rev.*, March, 1926), psychology is now in the peculiar position of an established science tolerating complete disagreement as to its fundamental postulates and presuppositions. The situation, however, is not as discouraging or as hopeless as the statement seems to imply. And for this, two reasons may be given. The physical deadlock between the various schools is leading to an eclectic tolerance of opposing views, and this compulsory tolerance is in turn leading to a critical questioning of accepted dogmas. By the operation of these two factors, it is to be hoped, there will develop a scientific orientation deep

enough to take in what is positive in the opposing methods and yet avoiding the dogmatic metaphysics which generally goes with it.

Professor Bentley himself pleaded for the consideration of the various schools, not as rival sects, but as representative of various intellectual categories which have proved more or less fruitful in the organization of psychological phenomena. Under this method, he attempted a classification of the major categories governing psychological science. The category of objectivity, though wider than behaviorism, was typified by the behaviorist school, which sought to reduce psychological science to such entities and laws as go to make up the objective world. Professor Bentley paid his respects to behaviorism and admitted that it served as a healthy reaction against the vices that had grown up, but denied that one could constitute, without question-begging, a complete science on the stimulus-response formula. Turning to the opposite category, he said this was not subjectivity but conscious experience. Here he distinguished seven forms or methods of applying this category as elaborated during the past 40 years. These were: (1), the fluent consciousness of James; (2), the conscious acts of Brentano; (3), productive and creative powers of the Austrian school; (4), constellated processes of Wundt; (5), attributive characters; (6), functional performance of psycho-somatic kind; (7), configurative experience or *Gestaltpsychologie*.

The last form, said Professor Bentley, now seemed predominant in American psychology, the tendency for it having started even before the spread of the German *Gestalt* movement. A number of other articles published during the year dealt with plans for reconciling the various schools, but most of them were weak, from a critical and philosophical point of view.

In view of the difficulties involved in psychological doctrine and general theories of mind, there has been a great trend towards statistical experiments. Such experiments could dodge, it was thought, all question of system. But if they could dodge to a certain extent the question of system, they could not well dodge the problem of the proper interpretation of statistical results. In this respect a more critical attitude is now becoming manifest, if we are to judge by a number of signs.

One of these signs is the passage of a resolution by the meeting of experimental psychologists, deploring the increasing use of the questionnaire method. The resolution strikes at a practice which had become all too common, of collecting a miscellaneous array of facts and opinions, putting them through the statistical machine, and then announcing universal scientific laws. The text of the resolution follows:

"Resolved that this meeting deplores the increasing practice of collecting administrative and scientific data by way of questionnaires; and that the meeting deplores especially the practice under which graduate students undertake research by sending questionnaires to professional psychologists."

The resolution was voted by Profs. E. G. Boring of Harvard University, Charles W. Fernberger of the University of Pennsylvania, E. S. Robinson of the University of Chicago, H. S. Langfeld of Princeton, E. B. Titchener of Cornell, and R. S. Woodworth of Columbia.

Another indication of the critical spirit with

regard to statistical findings is furnished by the discussion of E. G. Boring (*Amer. Jour. of Psych.*, vol. 37, 303) on Scientific Induction and Statistics. Professor Boring's great concern is to point out the difference between the description of immediate experimental facts and the scientific induction of laws, as well as to indicate the intellectual responsibility involved in the latter process.

"When we can say that A is greater than B," he writes, "the process of this phase of description is ended. When, however, we have many A's and many B's and some B's are greater than some A's, we have to resort to statistics to state the tendency for A to be greater than B. Here I think we are still mainly at the descriptive level. We come certainly to induction when we wish to assert that all A's tend to be greater than all B's; that is to say, any group of A's will on the average be greater than any group of B's. We have then to decide whether we shall regard our particular A's as a fair sample of all A's. . . .

"It is an illusion that this trick is turned by dividing the probable error of the single observation by the square root of the number of cases in order to give you the probable error of the mean. Such a probable error of a mean cannot be a prediction of the way in which means of new groups of A's will vary, because the central trend of new groups depends, not on anything inherent in the first group, but on the changed conditions that make the group new and not identical with the old."

The article concludes with a plea that statistical results be "evaluated" before being framed into inductive laws. In so far as the evaluation departs from the statistical finding, the departure should be, according to Professor Boring, in the direction of conservatism.

Echoes of the behavioristic controversy still appear in the psychological journals, as do discussions of the *Gestalt* theory. For the most part, however, it would seem that the sharp controversial tone of a few years ago has disappeared, even if it has not been replaced by unanimous agreement.

**BIBLIOGRAPHY.** New text-books and general works on psychology include the following: E. S. Robinson, *Practical Psychology*; Charles K. Ogden, *The Meaning of Psychology*; Leonard T. Troland, *The Mystery of Mind*; Paul Bousfield, *Pleasure and Pain*; Theodor Lipps, *Psychological Studies*; Mary Collins and James Drever, *Experimental Psychology*; Hans Driesch, *Grundprobleme der Psychologie*; K. H. Hulbert, *Rhythm in Feeling*.

Below are given reviews of the special fields of psychology in the following order: *Experimental*; *Comparative and Animal Psychology*; *Mental Measurement and Educational Psychology*; *Applied Psychology*; *Abnormal Psychology*; *Social Psychology*. Books on special subjects are listed under the respective heads.

**EXPERIMENTAL PSYCHOLOGY.** The *Psychological Bulletin* (vol. xxiii, p. 1) carries a special review by K. M. Dallenbach of recent experimental work in the field of Attention. Professor Dallenbach lists a great number of experiments, but as there are so many different points of view behind the experiments it is impossible to come to any conclusion as to present trends. Thus, Foucault and Pieron (French psychologists) are interested in the theoretical problem and are

preoccupied with combating the faculty notion of Attention. On the other hand, many Americans are interested either in reaction times or in the coordination of Attention for educational purposes. One experimenter (Tuttle) launches a physiological definition of Attention: Attention = muscle tonus. In this connection one should read the papers of Raymond Dodge on the related problem of Inhibition and also the article of McDougall on "The Drainage Theory of Inhibition" (both in *Psych. Rev.*, vol. xxxiii).

The *Psychological Bulletin* also carries special reviews of *Cutaneous and Kinesthetic Senses* (T. Metcalf); *Color Defects* (S. P. Hayes); *Visual Illusions*, with special reference to seen movement (P. C. Squires); *Synæsthesia* (Herbert S. Langeld); *Motor Automatism* (F. Fearing); *The Psycho-Galvanic Reflex* (H. Woodrow); and *Sleep* (H. M. Johnson, T. H. Swan, and C. E. Weigand). (For page numbers see index, vol. xxxiii.)

A volume of experimental researches on sound as related to language was published by Carl Stumpf (*Die Sprachlaute: Experimentell-Phonetische Untersuchungen*). From Germany also come two volumes of studies from the laboratory of Felix Krueger, under the title of *Neue Psychologische Studien*. The first volume of studies deals with form qualities and sentiments (*Komplexqualitäten, Gestalten und Gefühle*), while the second volume comprises papers on light and color.

**COMPARATIVE AND ANIMAL PSYCHOLOGY.** Much experimental work continues to be done in this field, and a number of systematic works have been published during the year. Prof. Carl John Warden, who is in charge of comparative psychology at Columbia University, has written a text-book on the subject under the title, *The Historical Development of Comparative Psychology*. A more specialized work on *The Brains of Rats and Men* was published by C. Judson Herrick. This last work is of special interest to neurologists.

A review of recent experimentation in animal psychology is to be found in the *Psychological Bulletin* (vol. xxiii, 19) prepared by J. Paul Visscher. Prof. L. T. Carmichael publishes in the *Psychological Review* (vol. xxxiii, 51) the results of his experimental findings on The Development of Behavior in Vertebrates Experimentally Removed from the Influence of External Stimulation. He finds in general a condition of interdependence existing between the organism and the environment, and holds against both the extreme theory of environmental influence and the extreme theory of heredity.

A polemic on the utility and reliability of the maze experiments was carried on in the columns of the *Jour. of Comp. Psych.*, (vol. vi, pp. 85, 393) between W. S. Hunter and Harvey A. Carr. Basing himself on a series of experiments carried on by himself and his pupils at the University of Kansas, Professor Hunter had challenged the reliability of the maze-reaction experiments for accurate findings. He believed it impossible to achieve standard conditions, such as are used in physical experiments. Professor Carr replied that conditions can be made sufficiently standard for the purpose of the experiments, and that with added precautions the range of reliability can be improved. To this Professor Hunter replied as follows:

"What we sought was the reliability of various



mazes with various types of subjects when customary methods of experimentation were used. It is quite possible that if new methods were employed, the results would be more dependable. If diet, daily exercise, general health, temperature, seasons, etc., were rigidly controlled, high coefficients of reliability might be secured. But this suggestion is quite as damning for the work of the past 20 years as are the Kansas findings, for such precautions have never been taken."

New volumes in this field include the following: F. Hemptmann, *Tierpsychologie vom Standpunkte des Biologen*; Neander P. Cook, *Instinct in the Cell and Organism*; Browne F. Balfour, *Concerning Habits of Insects*.

**MENTAL MEASUREMENT, EDUCATIONAL PSYCHOLOGY, ETC.** An attack on the mental age concept was launched by L. L. Thurstone in the *Psychological Review* (vol. xxxiii, 268). Professor Thurstone insisted that the relation between intelligence and age is not a linear one, and that this results in an ambiguity in the application of the term "mental age." Sometimes the term "mental age" corresponding to a specific performance means the chronological age for which the test performance is the average; sometimes the term "mental age" means the average chronological age of people who make that test performance. Professor Thurstone urged the use of percentile standing among children or persons of own age. A special number of the *Psychological Bulletin* (vol. xxiii) was devoted to Educational Psychology and Mental Measurement. The number was edited by Prof. R. Pintner. The writers generally stressed the need for great uniformity and standardization of tests and measurements.

New books dealing with mental measurement and educational psychology include the following: A. D. Inskeep, *Teaching the Dull and Retarded Child*; F. W. Freeman, *Mental Tests*; R. M. Ogden, *Psychology and Education*; Jean Piaget, *The Language and Thought of the Child*; J. J. Strassheim, *A New Method of Mental Testing*; James E. McDade, *Individual Number Drills*; C. E. Benson, J. E. Longen, C. E. Skinnell, and P. V. West, *Psychology for Teachers*; A. S. Neill, *The Problem Child*; Helen T. Wooley, *An Experimental Study of Children at Work and in School*; Bertha M. Boody, *A Psychological Study of Immigrant Children at Ellis Island*; Andrew Wilson Brown, *The Unevenness of the Abilities of Dull and Bright Children*; S. Hollingworth, *Gifted Children*; Harry E. Garrett, *Statistics in Psychology and Education*; H. Eng, *The Emotional Life of the Child*.

**APPLIED PSYCHOLOGY.** The field of applied psychology is too scattered for adequate presentation in a summary. The reader is referred to the volume by C. S. Myers on *Industrial Psychology*, which gives a general idea of the psychological techniques applied to modern business and industry; and also to the special review by M. S. Viteles in the *Psychological Bulletin* (vol. xxiii, 631), which summarizes in an interesting way the results of a number of recent experimental studies.

**ABNORMAL PSYCHOLOGY.** Professor McDougall's long awaited *Outline of Abnormal Psychology* was published this year. It is undoubtedly the best available text-book in the field, if we except Janet's *Principles of Psychotherapy* and *Psychological Healing*, which are translated from

the French and reflect the viewpoint of the French school.

The great merit of the McDougall book is that it avoids extreme theories, such as psychoanalysis and mechanistic behaviorism, and that it gives a common-sense formulation of the facts of abnormal behavior. Dogmatic psychologists who do not have to deal with human conduct in a practical way may insist that mind does not exist, but for Professor McDougall, as indeed for anyone who has to deal with specifically mental problems, mind is real enough. So, too, are the instinctive urges, in terms of the derangement of which we ordinarily have to explain mental aberrations. Sex (taken in the specific sense) is one of these urges, but only a theorist enamored of his system would try to reduce all instinctive urges to the sexual one.

In all such respects the work of Professor McDougall is clear-sighted and constructive. Yet when we turn to the philosophic side of the problem and ask what insight is afforded into the ultimate nature of spirit by the system of abnormal psychology, we are quite disappointed. We find Professor McDougall talking of the interaction of mind and body, without so much as giving a thought to the philosophic difficulty involved. Worse than that, we find him accounting for the disintegration of personality by formulating not merely a dualistic system of mind and body, but a system whereby the human individual is an aggregation of mind-body monads. The author regards it as an improvement over the doctrine of Leibnitz that he puts "windows" into his monads, but to us it would seem quite the opposite; it takes away the whole depth of Leibnitz's conception and reduces the doctrine to the semi-materialism prevalent in common-sense thought.

Prof. H. L. Hollingworth's *The Psychology of Thought* is an attempt to use experimental studies on sleeping and dreaming, for formulating a theory of thought. Also dealing with the problem of sleep is Dr. Joseph Collins' *Sleep and the Sleepless*, which has just been reissued. Recent work in hypnosis is summarized in a special review by Paul C. Young in the *Psychological Bulletin* (vol. xxiii, 504).

The subject of crime and social abnormality in general receives a great amount of attention. *The Journal of Abnormal Psychology* (vol. xxi) carries an editorial on The Need of More Psychological Studies of Crime. In the same issue there appears a paper by W. D. Tait on Crime and Its Causes. The author attributes crime to uncontrolled urgings, and believes that there is no other way out than punishment. This conclusion is in a sense refreshing, for hitherto psychologists in their investigation of crime have gone from the criminal to his psychological constitution, and from that they have gone on to deduce both the uselessness and the wrongfulness of punishment. Perhaps the danger now is that psychologists will be so actuated by the idea of social control as to go to the other extreme and plead for more punishment than even the general public demands.

*The British Journal of Medical Psychology* (vol. vi) carries a noteworthy symposium on The Definition and Diagnosis of Moral Imbecility. The participants in the symposium are A. F. Tredgold, Cyril Burt, M. Hamblen Smith, W. Rees Thomas, and F. C. Schrubbsall.

A number of new works on psychiatry were



published, and of these the following should be mentioned: C. MacFie Campbell, *Delusion and Belief*; and Edward Willys Tyler, *Psychotherapy*.

Other works of interest to students of abnormal psychology are W. S. Taylor, *Readings in Abnormal Psychology*; Carl Murchison, *Criminal Intelligence*; Jesse Q. Stutsman, *Curing the Criminal*; William Healy, *Delinquents and Criminals*; John Lewis Gillin, *Crime and Penology*.

**SOCIAL PSYCHOLOGY.** The rubric Social Psychology is to-day about the most indefinite in the whole science of psychology. The reason for this is to be found in the limited outlook of the general and experimental psychologists, who have sought to reduce everything to physiology and objective data. The science of social psychology was thus invented (as was remarked in a previous review) to fill in what experimental psychology overlooked; and, in point of fact, the subject matter of social psychology, when it is defined at all, includes what most laymen would call psychology. But psychologists, even when they turn to social psychology, carry over the objective experimental method of general psychology, and as a result no specific method has ever been worked out for social psychology. The method of McDougall is much too dogmatic, and the method of the experimentalists much too experimental.

The nearest approach to adequacy of method is to be found in the writings of French psychologists and sociologists. These French writers combine an objective and sociological method with psychological analysis in the classic sense of the term. An illustration of what we have in mind is furnished by H. Delacroix's *L'Analyse Psychologique de la Fonction Linguistique*. The book is a condensation of his much larger work, *La Psychologie du Langage*, published in 1924. The best way to describe its contents and the theories of the author is to say that Professor Delacroix starts with behaviorism, both social and physical, but then traces the complex and unconscious intellectual work which is behind the automatic and reflex acts. Thus in a sense Watson is right when he says that the word "red" is a response to the stimulus of a red color. But if we want to understand how and why people automatically respond with the word "red," we cannot do it by regarding the human individual as a physical mechanism, as Watson would have it, but by retracing the intellectual activity represented by the etymology of the word.

In connection with M. Delacroix's work it is interesting to recall the permanent contributions that have resulted from the school of Durkheim. For this purpose Roger Lacombe's *La Méthode Sociologique de Durkheim* may be recommended.

Passing to American and English studies, mention should be made first of all of L. L. Bernard's *Introduction to Social Psychology*. Professor Bernard is preoccupied with the problem of instinct and reflex action, and combats McDougall's classification. Among the more general monographs are that of R. G. Gordon on *Personality*, and that of Hanbury Hankin on *Common Sense and Its Cultivation*.

The following books, while of an ethnological nature, are of interest to social psychologists: Bronislaw Malinowski, *Crime and Custom in*

*Primitive Society*; L. Lévy-Bruhl, *How Natives Think*; Sir James G. Frazer, *The Worship of Nature*; W. H. Rivers, *Psychology and Ethnology*.

**PUBLIC LANDS.** See LANDS, PUBLIC.

**PUBLIC SCHOOLS.** See EDUCATION IN THE UNITED STATES.

**PUERPERAL ECLAMPSIA.** The treatment of this complication of childbirth has until recently involved forced delivery as the most available means to free the maternal organism of a poison and give the baby a chance for survival. By this means the mortality could be brought down to a certain level—about 20 per cent for mothers. Only in Russia was there a clinic in which opiates were given and expulsion left to itself. The incidence of the disease appears to be falling off somewhat as a result of greater prenatal care, including regular examinations of the blood pressure and urine. For some years back there has been a tendency to make more use of sedatives, especially morphine and sulphate of magnesium, in the attempt to lower the maternal mortality. The fear that the child mortality might increase thereby has not been borne out, for there have been fewer still-births and fewer children have died of secondary mortality soon after delivery. In the *Journal of the American Medical Association* for July 24, Drs. Davis and Harrar report 879 cases of puerperal eclampsia, with many other statistics from the records of the New York Lying-in Hospital. This period extended over 30 years, during which the total confinements amounted to 152,248. In 1922 there were but eight cases in a total of 5400 deliveries, and but one of the eight ended fatally. In 1914 there were 57 cases, while in 1925 the number was 12. Curves show a seasonal factor in the incidence of the disease, for the peak is reached during March-May, while the low mark falls in July.

The deaths in the 879 cases number 203, a mortality of 23 per cent. The worst year was 1905, when there were 150 cases, with 36 deaths. The mortality has since come down to an average of 15 per cent exclusive of cases which develop after delivery, these giving 20 per cent. This lowering of the death rate may be attributed to the recent custom of giving morphine in large doses. Every woman receives half a grain on admission, and after that a quarter grain as required. The only instrumental intervention is the ordinary low forceps to aid in actual expulsion.

In the same number of the *Journal*, Drs. McNeille and Vruwink of the Los Angeles General Hospital report the routine use of intravenous injection of magnesium sulphate as of great value, but rather as a preventive of convulsions than a cure. It brings down the blood pressure and stimulates the functions of the kidney. The mortality under this treatment has fallen from 36 per cent to less than 15 per cent.

**FUGILISM.** See BOXING.

**PULP, PULPWOOD INDUSTRY.** See FORESTRY; PAPER.

**PUMPS.** See WATER-WORKS AND PURIFICATION.

**FURNELL ACT.** See AGRICULTURE; AGRICULTURAL EXPERIMENT STATIONS.

**QUACKENBOS, JOHN DUNCAN.** American physician and educator, died at Lake Sunapee, N. H., August 2. He was born in New York City, Apr. 22, 1848, the son of George Payn

Quackenbos, known as the author of a series of textbooks. He graduated from Columbia College in 1868, and from the College of Physicians and Surgeons in 1871. In the previous year he had been appointed tutor of rhetoric and history at Columbia College, and continued in educational work until 1894, when he retired from active service at Columbia University as professor emeritus. In 1884 he had been made adjunct professor of the English language and literature, and in 1891 he had become professor of rhetoric at Columbia University and at Barnard College. On his retirement from active educational work, Dr. Quackenbos devoted himself to the practice of medicine, specializing in mental and moral diseases, with particular reference to hypnotic suggestion and similar methods of treatment. In addition to a number of textbooks, treatises on fish, and various contributions to medicine, he was the author of *Magnhild*, a psychical novel (1919); *Hypnotic Therapeutics* (1908); *Body and Spirit* (1916); and *Rational Mind Cure* (1925).

**QUAKERS.** See FRIENDS, RELIGIOUS SOCIETY OF.

**QUANTUM MECHANICS.** See PHYSICS.

**QUARANTINE, PLANT.** See AGRICULTURE, UNITED STATES DEPARTMENT OF.

**QUARANTINES, AGRICULTURAL.** See HORTICULTURE.

**QUARANTINES, PLANT, ANIMAL, AND INSECT.** See ENTOMOLOGY, ECONOMIC.

**QUEBEC**, kwě-běk'. The largest province in Canada, and one of the four original provinces in the present Dominion of Canada; including most of the Labrador peninsula; bounded on the west by Hudson Bay and Ontario, on the north by Hudson Strait, on the east by Labrador, and on the south by New Brunswick, the United States, and southern Ontario. Area, 706,834 square miles; population, according to the census of 1921, 2,361,199, of whom 1,038,128 were rural, 357,295 of British origin, and 1,889,090 of French origin. Capital, Quebec. The chief cities with their populations, according to municipal statistics, are as follows: Montreal, 836,304; Quebec, 116,488; Hull, 35,521; Verdun, 32,804; Three Rivers, 26,000; and Sherbrooke, 24,179.

The provisional figures for the acreage and yield of the most important field crops for the year 1925 were as follows: Wheat, 68,000 acres, 1,210,000 bushels; oats, 1,856,000 acres, 53,638,000 acres; barley, 124,000 acres, 2,976,000 bushels; rye, 13,000 acres, 216,000 bushels; flax, 2700 acres, 29,000 acres; mixed grains, 113,000 acres, 657,000 bushels; other grains, 239,000 acres, 4,903,000 bushels; potatoes, 156,000 acres, 10,982,000 cwt.; roots, 34,000 acres, 3,682,000 cwt.; hay and clover, 4,112,000 acres, 6,703,000 tons; alfalfa, 22,000 acres, 46,000 tons; fodder corn, 90,000 acres, 828,000 tons.

Quebec is the chief Canadian province in the production of pulpwood, having more than half of the Canadian production. The value of mineral production in 1924 was \$18,952,896. The leading minerals were asbestos, mica, cement, sand, and limestone. Total imports for consumption in 1923-24 amounted to \$250,484,108; total exports, \$359,050,554. The revenue for 1924 was \$23,170,733; expenditure \$21,867,293. The public debt in the same year was \$56,638,801. The railway mileage totals 4959.77, exclusive of 321 miles of electric railways. At the head of the government is a lieutenant-governor appointed

by the governor-general of Canada, who acts through a responsible ministry; legislative power is vested in a bicameral body, a council of 24 members, who are appointed for life, and a legislative assembly of 85 members elected for five years. Quebec is the only province in Canada in which women are not enfranchised or eligible for election to the legislature. Lieutenant-Governor at the beginning of the year, N. Pérodeau; Premier, Attorney-General, and Minister of Municipal Affairs, L. A. Taschereau; Lands and Forests, Honoré Mercier; Treasurer, J. Nicol; Secretary, Athanase David; Agriculture, J. E. Caron; Colonization, Mines and Fisheries, J. E. Perrault; Public Works and Labor, A. Galigneault; Roads, J. L. Perron; Ministers Without Portfolio, E. Moreau, M. Madden, and L. Lapierre.

**QUEENS COLLEGE.** A college for women at Charlottetown, N. C.; founded in 1771; non-sectarian in purpose, but under the direction of the Presbyterian Church. The enrollment for the autumn of 1926 was 330. There were 30 members in the faculty, of whom an associate professor in religious education, an assistant in the science department, and an assistant in mathematics and Latin, were added in 1926. The college had a yearly income of \$200,000. The library contained 8395 volumes. A new building, costing \$80,000, combining refectory and dormitory space, was proposed for 1927, in order to increase the number of students who could be accommodated. President, William H. Frazer, D.D.

**QUEENSLAND.** A state in the Commonwealth of Australia, situated north of New South Wales; the second largest of the constituent Australian states. Area, estimated at 670,500 square miles; population, according to the census of 1921, 755,972; estimated, Mar. 31, 1926, 867,643, of whom 458,120 were males and 409,523 females. The movement of population in 1925 was: Births, 20,283; deaths, 7545; marriages, 6471. The immigrants in the year 1924 numbered 92,871 and the emigrants, 83,376. Capital, Brisbane, with a population in 1924 (10-mile radius), of 245,015.

During 1924 there were 1688 state schools (including 13 high schools and 152 provisional schools) with 4122 teachers and an average daily attendance of 104,283. The total value of all crops in 1924 was £13,992,384 as compared with £10,105,844 in 1923. The principal crops are green fodder, sugar cane, corn, wheat, cotton, hay, and bananas. The total value of the mineral production in 1924 was £2,266,461. Since the discovery of the gold fields in 1858 the value of the gold output, to the end of 1924, was £84,993,461. Coal is also an important mineral product (1,123,127 tons produced in 1924), and among the other mineral products are copper, tin, wolfram, lead, cobalt, etc. In 1924-25 the imports amounted to £12,833,375 and the exports to £24,454,616. The registered shipping in 1924 consisted of 150 sailing vessels of 6388 net tons and 113 steamers of 25,942 net tons. On June 30, 1924, 6040 miles of railways were open, of which 5964 were being worked.

The annual report of the Commissioner of Railways in Queensland, for the year ended June 30, 1926, showed that the gross railway earnings were £7,437,090, as compared with £7,109,210 in the previous year. Deducting working expenses of £6,459,792 as compared with £5,425,167 for the previous year, this has left a net

revenue of £977,298 as compared with £1,684,043 in the preceding year. Interest on capital amounted to £2,770,052, as against £2,578,541, thus producing a deficit of £1,792,754 as against one of £894,498 in the previous year.

Executive power is vested in a governor, who acts through a responsible ministry; and legislative power in a single chamber or legislative assembly of 72 members elected for three years (the legislative council was abolished in 1922). The governorship at the beginning of the year was vacant. Lieutenant-Governor, W. Lennon; Prime Minister, W. McCormack.

**QUESTIONNAIRE METHOD.** See PSYCHOLOGY.

**QUICKSILVER.** During 1926 the consumption of quicksilver in the United States continued at the same high rate as in 1925, and it was estimated that the domestic production plus the imports would show an apparent consumption of about 34,000 flasks of 75 lbs. each for the eleven-month period ending Dec. 1, 1926. In continental Europe there was an increased consumption, especially in Germany, but in England the unsettled industrial conditions acted against any further increase. It was believed that both Spain and Italy were increasing their production and Spanish production was believed to be the heaviest on record. The production of the United States in 1926 was estimated at 10,000 flasks, as compared with 9174 flasks, valued at \$762,610, in 1925; that of Mexico and miscellaneous countries, 3500 flasks; while that of Spain was stated at 46,000 and Italy at 52,000, making a total estimated production for the year of 111,500 flasks. At the end of the year there was no apparent stock on hand, so that it was believed that consumption was equal to production. In both Italy and Spain the old mines were being worked, while in the United States, in addition to the mines where production had taken place in the past, there were several new prospects in Washington, Oregon, Nevada, and Arizona. In California the old mines did most of the production, but in one a new furnace plant was installed and at the end of the year it was stated that over 20 mines or prospects were opening up and developing in California. In Oregon a considerable number of furnaces were installed, in addition to small mines and prospects being worked, while in Nevada old mines were being opened and new prospects were being developed. In Arizona also there was increased activity and in December it was believed that production would be increased during 1927. In the annual review published in the *Engineering and Mining Journal* (New York), it was stated that nearly 95 per cent of the world's quicksilver was produced in the six largest mines, four of which were in Italy, one in Spain, and one in the United States, the last named being the smallest producer of the six.

The imports of quicksilver in 1926 totalled 2,146,076 pounds, valued at \$1,936,458, as against 1,708,560 pounds, valued at \$1,321,586, in 1925. California, in 1925, produced 83 per cent of the total of 9174 flasks, while Texas, Nevada, Arizona, and Idaho contributed 1560 flasks.

**RACIAL STUDIES.** See ANTHROPOLOGY.

**RACING.** No international competition marked thoroughbred racing in 1926, but the more important meetings throughout the United States, Great Britain and France attracted their customary widespread interest. It was estimated

that the wagering on horse races in England alone during the year amounted to more than \$1,500,000.

In the United States, the three-year-old division proved preëminent, the leading horse being Crusader, owned by Samuel D. Riddle. Crusader captured nine purses, totalling \$106,033, a worthy record for a son of the great Man o' War and Star Fancy. Numbered among Crusader's triumphs were the Belmont, Riggs Memorial, Cincinnati Derby, Dwyer Stakes, Havre de Grace Handicap, Jockey Club Gold Cup, and Suburban Handicap. Harry Payne Whitney again was the largest money winner among the owners, with a total of more than \$400,000. Ranking second to Crusader as a purse winner was Boot to Boot, owned by Colonel Bradley. The champion filly of the year was W. R. Coe's Black Maria. There was a scarcity of good two-year-olds, perhaps the best among them being the Foxcatcher Farm's Fair Star and W. M. Jefford's Scape Flow. The leading jockey was Laverne Fator.

The winners of the principal turf events in the United States were as follows: Futurity, Scape Flow; Preakness, Display; Kentucky Derby, Bubbling Over; Hopeful, Lord Chaucer; Belmont Stakes, Crusader; Withers, Haste; Saratoga Special, Chance Shot; Travers, Mars; Suburban Handicap, Crusader; Metropolitan Handicap, Sarazen; Saratoga Cup, Espino; Brooklyn Handicap, Single Foot.

Coronach, owned by Lord Woolavington and ridden by J. Childs, won the English Derby by five lengths. W. M. Singer's Lancegaye finished second, Lord Derby's Colorado third and Lord Astor's Swift and Sure fourth. The Grand Prix de Paris was captured by Take My Tip, owned by James Hennessy, with Simon Guthmann's Biribi second.

The first running of the Hambletonian Stake was the feature of 1926 in harness racing. This stake had a gross value of \$75,000, the richest purse ever put up for trotters. The winner was Guy McKinney, a three-year-old colt, owned by H. B. Rea and driven by Nat Ray. Highland Scott carried off the honors in the three-year-old pacing division. A new world record for four-year-old trotting geldings, 2:02 1-4, was set by Guy Ozark, owned by E. Roland Harriman, at Toledo, Ohio. The winning driver of the year was Walter Garrison.

**RACQUETS.** Outstanding events in the world of racquets during 1926 were the retirements of Jay Gould, for twenty years United States national amateur court champion, and Walter Kinsella, world's open squash champion, and the defeat of Clarence C. Pell, who had stood at the head of amateur racquets for 11 years. C. Suydam Cutting of New York City acquired the national amateur court honors through the default of Gould by reason of the latter's poor physical condition. Kinsella's title went to Francis Ward of New York City, and Stanley Mortimer defeated Pell in the racquets singles final.

Fillmore Van S. Hyde of the Harvard Club, New York, regained the amateur squash tennis championship from William Rand, jr., also of the Harvard Club, who had defeated Hyde in 1925. W. Palmer Dixon won the national amateur squash racquets championship.

**RADCLIFFE COLLEGE.** A non-sectarian college for women at Cambridge, Mass.; founded in 1879. The enrollment for the autumn of 1926 was

1024, distributed as follows: regular students, 727; graduates, 257; special students, 40. Instruction is given to the students of the College by 179 teachers from Harvard University. The productive funds amounted to \$3,432,000, and the income for college purposes to \$400,000. The library contained 54,952 volumes, exclusive of pamphlets. President, Ada Louise Comstock, A.M., Litt.D., L.H.D., LL.D.

**RADIO.** See U. S. DEPARTMENT OF AGRICULTURE.

**RADIO BROADCASTING.** More broadcasting stations, greater variety of programmes offered, and continued interest by many in the construction of their own receiving sets combined to make 1926 a record year for the manufacturers and distributors of parts as well as of complete sets. A conservative estimate of the amount of sales of radio apparatus and parts during the year put the figure at \$520,000,000.

New discoveries and inventions for the improvement of radio transmission and reception were numerous. There was further investigation of the value and limitations of short-wave transmission. One of the most valuable results of the work of radio engineers was the development of "beam transmission" by Marconi, whereby not only greater range of signaling was secured, but transmission over a given distance could be accomplished with the expenditure of a smaller amount of power. Scientists were actively engaged in studying static, fading and other troubles commonly experienced in reception of radio signals. Dr. J. H. Dellinger, Chief of the Radio Laboratory of the U. S. Bureau of Standards, stated that:

The results all tend to corroborate the hypothesis which was conceived a few years ago of the effect of an upper conducting layer in the earth's atmosphere. This upper conducting layer, called the Kennelly-Heaviside surface, has now been located.

Its height is found to vary at different times of year and day all the way from fifty to five hundred miles above the earth's surface. The action of this conducting or reflecting surface explains the enormous distances of transmission at night and on high frequencies.

This knowledge is placing radio transmission on an engineering basis and makes it possible to calculate definitely the service that can be obtained from a given transmitting station. The advantage of this work is especially marked in connection with the high frequencies or short waves. High frequency waves are particularly erratic, but as a result of the investigations of their behavior it is now possible to take full advantage of their tremendous carrying power.

At the close of the year 116 new broadcasting stations were under construction in the United States, and the Department of Commerce received notice of 203 additional undertakings of the same sort upon which work was expected to begin. Early in the year, it was reported upon reliable authority that there were 575 broadcasting stations in the United States, more than five times the number in all European countries.

The activity in this line of electrical manufacture was reflected in export sales in increasing quantities. During 1925, according to bulletins issued by the U. S. Department of Commerce, the value of radio equipment exported from the United States was \$9,903,857, going chiefly to Canada, Latin America and Asia, although European countries absorbed \$1,497,532 worth of radio material and the United Kingdom \$644,900. During the same period, exports of British made radio goods amounted to \$6,496,532, sent mostly to Europe, Africa and Oceania.

Canada purchased from the United States more than \$3,500,000. During the calendar year, 1926, there were exported from the United States 69,482 receiving sets, valued at \$2,873,676; 664,915 tubes, valued at \$867,631; receiving set components to the value of \$2,016,466; and receiving set accessories valued at \$2,481,040.

One of the achievements of the year of great value to commerce was the daily broadcasting from Arlington Station of weather information. Although very few ships were provided with the necessary receiving apparatus, it was expected that the great value of this service to vessels at sea would soon cause wider introduction of the equipment required.

The question of supervision and control of broadcasting in the United States was in an unsatisfactory and unsettled state at the close of the year. The Attorney-General having decided that the necessary powers to license, assign wave lengths, etc., were not vested in the Secretary of Commerce, several bills were introduced in Congress aiming to set up a regulatory committee or body that would be fully empowered to take charge and control such matters. The radio public, scientists, engineers and manufacturers were deeply concerned with the outcome of this discussion, but considerable time would be required to come to an agreement that could be enacted by both Houses of Congress.

Although primarily for the entertainment of travelers on long journeys, several railways were making a study of radio reception on moving trains with a view to possibly making use of it in regular operation. The Canadian National Railways had fifty cars on their transcontinental passenger trains equipped with radio receiving apparatus. Continuous records of reception were kept, so that on the 3700-mile stretch from coast to coast, valuable information was obtained. Excellent reception was usually secured during the day and until midnight; except during a short time in October last, when almost all radio transmission in northern latitudes was seriously interfered with by the prevalence of aurora borealis. The railway maintained ten broadcasting stations between Moncton, N. B., and Vancouver, B. C.

During the year the Canadian Government received fees from 146,186 owners of radio receiving sets and it was estimated that this figure represented only one-half the actual number of sets in use. The total number of radio sets in use was estimated to be more than 5,000,000.

**RADIO FOG SIGNALS.** See LIGHTHOUSES.

**RADIO TELEGRAPHY AND TELEPHONY.** The outstanding feature of progress during the year was the completion of arrangements by the British Post Office and the American Telephone and Telegraph Company for radio telephonic transmission between London and New York. Early in 1926, conversation between these cities was made possible and a long and exhaustive series of tests by the engineers under all sorts of conditions demonstrated that voice transmission between England and America was commercially practicable. At the close of the year it was announced that radio telephone service between New York and London would be available to the public beginning Jan. 7, 1927, at the rate of \$75 for three minutes' conversation and \$25 per minute for each additional minute.

There were many new and unusual features about this transmission. In the United States,

the transmitting station was at Rocky Point, Long Island, N. Y., from which the transmission was received at Wroughton, England. The British transmitting station was at Rugby, 85 miles from London, which transmitted to Houlton, Maine, thence by wire telephone to New York City. The apparatus necessary to equip the various stations for transoceanic service was said to have cost about \$5,000,000. The wave length employed was 5000 meters and a novel feature of the installation was a supplementary short wave transmitter at Deal Beach, New Jersey and a corresponding short wave receiver at London. When a person talked into a telephone transmitter in New York, the long wave transmitter at Rocky Point and the short wave transmitter at Deal Beach operated simultaneously. Experience showed that at certain times during the day, reception at London was better on 22 meters than it was on the 5000 meter wave length.

For radio telegraph signals, satisfactory transmission with low power apparatus was obtained with the so-called "beam system," originally developed by Marconi. By this system, the radiations from a sending station were concentrated and sent out into space like the rays from a searchlight. They could be directed as an intense beam approximately fifteen degrees wide, thus furnishing a much more powerful signal than if allowed to spread out in every direction. A special radiating system of aërials was built in order to direct the radiations to the desired point. Stations were built at Bodmin, England, and Bridgewater, Canada, and satisfactory communication was obtained on short wave length, with only twenty kilowatts of energy at the sending station. This system was especially adapted to wireless telegraphy, but not to broadcasting.

**RADIUM.** During 1926 the radium industry continued in the hands of the Belgian refiners who were understood to have so much of the material on hand that it was not necessary for them to operate either their African mines or their factory. In the United States little if anything was done during the year in the isolation of radium and the only radium-uranium ores recorded mined were for the purpose of making various types of apparatus largely of a medical nature.

fatal injuries than in 1924, although the number of fatalities increased by 149. In 1925 there were 47,949 train and train-service accidents, resulting in 6304 deaths and 47,993 injuries, as compared with 69,197 accidents in 1924, with 6215 fatalities and 48,371 injuries. The averages for the nine years, 1916-24, were 7256 persons killed and 57,181 injured. Although in former years the number of accidents had been influenced by the number of locomotive miles, there were fewer accidents in 1925, although the locomotive-miles increased by 1.5 per cent over 1924.

There were, during the year, 20,785 train accidents where more than \$150 damage to railway property was involved and which were classified as collisions, derailments, locomotive-boiler accidents, other locomotive accidents, and miscellaneous train accidents. This was 1583 less than were reported for 1924, and was accompanied by a decrease of 74 injuries but an increase of 51 fatalities. Negligence of employees, as in 1924, was the cause of the greatest number of casualties in train accidents, with 174 fatalities and 2026 injuries, while 21 fatalities and 292 injuries were due to defects in, or failures of equipment, although there were 8186 accidents due to defects of equipment and only 6280 due to negligence of employees. The total amount of damage to railway property as a result of train accidents in 1925 was \$22,149,457, or \$1,176,523 less than in 1924. Of this amount, \$8,318,435 damage was caused by defects in or failures of equipment.

There was a slight increase in the number of casualties in train-service accidents, or those resulting in reportable casualties but not in damage to railway property in excess of \$150, and including accidents to employees such as due to coupling locomotives, operating switches, etc., accidents at grade crossings, struck or run over elsewhere, and miscellaneous, the number of fatalities in this group being 5946, as against 5848 in 1924, but the injuries were 44,081, or 304 fewer than in the preceding year.

The number of accidents at grade crossings increased in spite of efforts of railroads and other agencies to lessen their number, there having occurred 5479 in 1925, as compared with 5127 in 1924. The accompanying table gives a comparison of grade-crossing accidents for 1925, 1924, and 1923.

Year	Total		Train accidents		Train-service accidents	
	Killed	Injured	Killed	Injured	Killed	Injured
1925.....	2,206	6,555	50	69	2,156	6,486
1924.....	2,149	6,525	61	164	2,088	6,361
1923.....	2,268	6,814	22	107	2,246	6,207

**RAILWAY ACCIDENTS.** In the year 1925 there were 6766 persons killed and 137,435 injured in reportable accidents on steam railways in the United States, according to Accident Bulletin No. 94 of the Bureau of Statistics of the Interstate Commerce Commission published in 1926. This bulletin contains statistics regarding collisions, derailments, and other accidents occurring in 1925, which resulted in injury to persons, equipment, or roadbed, and which arose from the operation of steam roads used in interstate commerce. These figures include 402 fatal and 89,442 non-fatal injuries resulting from non-train and industrial accidents. The record for 1925 continued to show improvement over preceding years, there being 6304 fewer non-

The table on page 634 summarizes the accidents for 1924 and 1925.

**RAILWAYS.** Economies in operating costs, higher standards of maintenance, and improvement in service, were the three notable features in the history of railroads in the United States in 1926. The two latter, improvement in service and high standards of maintenance, are usually found together, but a combination of much more economical operation with these two has been rarer. It would appear that in 1926 an important advance, amounting almost to a new discovery, was made in the economics of American railroad operation. The development of a heavy train load has generally been considered one of the outstanding achievements of the science

## ACCIDENTS ON STEAM ROADS IN THE UNITED STATES

<i>Trespassers and nontrespassers</i>	<i>Rate per million locomotive miles</i>	<i>Year ended Dec. 31, 1925 Casualties to persons</i>			<i>Rate per million locomotive miles</i>	<i>Year ended Dec. 31, 1924 Casualties to persons</i>		
		<i>Total</i>	<i>In train accidents</i>	<i>In train- service accidents</i>		<i>Total</i>	<i>In train accidents</i>	<i>In train- service accidents</i>
<b>Total persons:</b>								
Killed .....	3.63	6,964	418	5,946	3.60	6,215	367	5,848
Injured .....	27.40	47,998	3,912	44,081	28.03	48,371	3,986	44,385
<b>Total employees:</b>								
Killed .....	.81	1,412	235	1,177	.77	1,336	221	1,115
Injured .....	18.63	32,630	1,490	31,140	18.87	32,571	1,497	31,074
<b>Other persons:</b>								
Killed .....	2.83	4,952	183	4,769	2.83	4,879	146	4,733
Injured .....	8.77	15,368	2,422	12,941	9.16	15,800	2,489	13,311
<b>Trespassers</b>								
<b>Total trespassers:</b>								
Killed .....	1.48	2,584	32	2,552	1.48	2,556	39	2,517
Injured .....	1.53	2,688	56	2,632	1.65	2,853	58	2,795
<b>Employees:</b>								
Killed .....	.06	113	...	113	.05	90	2	88
Injured .....	.08	146	1	145	.10	170	6	164
<b>Other persons:</b>								
Killed .....	1.41	2,471	32	2,439	1.43	2,466	37	2,429
Injured .....	1.45	2,542	55	2,487	1.55	2,683	52	2,631
<b>Nontrespassers</b>								
<b>Total trespassers:</b>								
Killed .....	2.16	3,780	386	3,394	2.12	3,659	328	3,331
Injured .....	25.86	45,305	3,856	41,449	26.38	45,518	3,928	41,590
<b>Employees on duty:</b>								
Killed .....	.70	1,228	232	996	.69	1,192	216	976
Injured .....	18.41	32,245	1,488	30,762	18.64	32,174	1,477	30,697
(a) <b>trainmen:</b>								
Killed .....	.41	722	188	534	.39	672	183	489
Injured .....	16.65	29,175	1,207	27,968	16.93	28,224	1,243	27,981
(b) <b>Other employees:</b>								
Killed .....	.29	506	44	462	.30	520	33	487
Injured .....	1.75	3,070	276	2,794	1.71	2,950	234	2,716
<b>Employees not on duty:</b>								
Killed .....	.04	71	8	68	.03	54	3	51
Injured .....	.14	239	6	233	.13	227	14	213
<b>Passengers:</b>								
Killed .....	10	171	83	88	.09	149	41	108
Injured .....	2.83	4,952	2,053	2,899	3.10	5,354	2,125	3,229
<b>Persons carried under contract:</b>								
Killed .....	.02	27	15	12	.01	20	8	12
Injured .....	.34	601	184	417	.32	557	167	390
<b>Other nontrespassers:</b>								
Killed .....	1.80	2,283	53	2,230	1.30	2,244	60	2,184
Injured .....	4.15	7,268	130	7,138	4.18	7,206	145	7,061

of railroad operation as developed in America. This has not always, or even generally, made for the best service to the public. A steam locomotive can haul the heaviest load which it is capable of hauling, at a comparatively low speed per hour, depending somewhat, of course, on the type of locomotive. With the types in use on American railroads, an average speed of about eight miles an hour was considered to haul the heaviest train load. Furthermore, in territory in which a comparatively small amount of freight traffic originated, cars were frequently held for days or weeks until a sufficient number of them were on hand to fill out a long, heavy train. The time element was neglected in an over-insistence on the element of weight. In 1926, however, railroad managements generally gave the time element its fair share of consideration.

A measure of railroad operation which combines the two elements is the figure for net ton-miles per train-hour. Thus, if the train load is 400 tons and the average speed is 10 miles per hour, the net ton-miles per train hour will be 4000. If either the speed or the weight of the train is doubled, the other factor remaining the same, the net ton-miles per hour are doubled, viz., 8000. In August, 1926, the average net ton-miles per train-hour on railroads in the United States was 9867, comparing with 9426 in August,

1925, and the average net ton-miles per train-hour in the first 10 months of 1926 were 9259, and for the corresponding 10 months of 1925 were 8822.

This was the result both of an increase in train load and an increase in the average speed. The average train load for the country by months in 1926 varied from 720 tons to a maximum of 829 tons, whereas in 1925 the train load varied from a minimum of 709 tons to a maximum of 796 tons. The highest average speed was in May, 1926, and was 12.4 miles per hour, and for the first 10 months of 1926 averaged 12 miles per hour.

Another way to measure speed is to record the miles run by a locomotive in a day. The average miles run per locomotive in October, 1926, was the highest in the history of American railroads, 67.5 in a day. The highest average in the five years, 1921 to 1925 inclusive, in one month, was 61.3.

Notwithstanding the higher speed, fuel consumption per thousand gross ton-miles was reduced to 121 lbs., in July and August, 1926, as against 126 and 125 lbs., respectively, in July and August, 1925. This was for freight service. In passenger service, fuel consumption was reduced to 14.3 lbs. per passenger car mile in July and August, as compared with 14.8 and

14.7, respectively, in the corresponding months of 1925. To some extent this improvement may have been the result of a better design of locomotive and more complete combustion of fuel, but it is believed, from actual observation, that it was largely due to better methods of firing locomotives. Firemen distributed a shovelful of coal more evenly and used better judgment in feeding the fire. In other words, this class of railroad labor was more efficient, due to better training and better supervision. This was true in other departments of railroad operation as well.

There were 1,730,171 men employed in railroad work in January, 1926, according to the Interstate Commerce Commission's statistics, and 1,728,333 employed in January, 1925, and 1,749,927 employed in January, 1924. Thus, with an increase of 32,000,000,000 ton-miles of freight carried, or 7 per cent in 1926 as compared with 1925, there was an increase of only about 2000 employees, or a fraction of 1 per cent in the number of employees. There are various ways by which improvements in freight service are indicated, one of the best being the reduction in freight claim payments. In 1926 freight claim payments amounted to approximately \$32,000,000. This compares with \$40,000,000 in 1925 and \$120,000,000 in 1920. Both President Coolidge and Secretary Hoover of the Department of Commerce have commented upon the improvement in railroad service. President Coolidge in a message to Congress in the latter part of 1926 said:

It would be difficult to conceive of any modern activity which contributed more to the necessities and conveniences of life than transportation. Without it our present agricultural production and practically all of our commerce would be completely prostrated. One of the larger contributing causes to the present highly satisfactory state of our economic condition is the prompt and dependable service, surpassing all our previous records, rendered by the railroads. This power has been fostered by the spirit of coöperation between Federal and State regulatory commissions.

Secretary Hoover in his annual report said:

The railways, during the past five years, not only have built up adequate service and given a complete correction to these ills, but they have, by great ability of their managers, greatly reduced transportation costs and thus made rate reductions possible which would not have been otherwise the case. . . . Rapid dispatch has greatly reduced the inventories of the country, has contributed to the stabilization of production and employment, and has increased the efficiency of all production and distribution.

As regards improvement of the physical property of the railroads, a comparison of maintenance-of-way expenditures in the first quarters of 1926, 1925 and 1924 may be made by means of the figures compiled by the Interstate Commerce Commission. With an increase of only 1 per cent in total operating revenues, the railroads spent 8.9 per cent more for maintenance of way. While there may be individual exceptions, the following statement is believed to be true as regards the railroads as a whole: They were less in need of heavy maintenance expenditures Jan. 1, 1926, than they were on Jan. 1, 1924. The more liberal policy adopted in 1926 was probably not dictated by necessity but by ability to spend more money on upkeep and by desire to establish a better transportation machine and thus to reduce the future necessary expenses of both maintenance and operation. . .

Few people realize how great variance may be made in maintenance-of-way expenditures as

a matter of arbitrary policy. On a well maintained railroad it would be possible to cut down maintenance-of-way expenditures by more than 25 per cent for a year, or, in some cases, for a longer period. In the long run, of course, rehabilitation of the property would cost far more than the apparent saving made arbitrarily in the one year.

On the other hand, a road may be in fairly good physical condition, and yet maintenance expenditures may be barely enough to keep it in this condition, and an increase of 10 per cent in the amount appropriated for maintenance expenditures may conceivably put the road in first-class condition and leave a margin of safety for times of lean earnings that will be a strong factor in the credit position of the railroad company's common stock. Apparently, the railroad managements generally have taken the opportunity afforded by relief from the strain attendant on the resumption of private operation and the uncertainty as to the attitude of national and State legislatures, to improve as well as fully maintain their properties.

Expenditures for maintenance of equipment show a decrease of nearly 3½ per cent in the first quarter of 1926, as compared with 1924. Maintenance of equipment allows of no such arbitrary variation in policy as is the case with maintenance of way. Equipment has to be repaired, or else it quickly becomes unserviceable. It is, of course, possible for a very short period of time to neglect repairs of cars and locomotives, but the results show themselves within a few months in increased cost of operation if traffic keeps up. The neglect is easily discoverable by any one who will take the trouble to examine the weekly reports of the American Railway Association in regard to car and locomotive conditions. The number of freight cars in unserviceable condition January, 1924, was 6.7 per cent and January, 1926, was 6.6 per cent of all cars on line, and the number of freight locomotives in unusable condition January, 1924, was 19 per cent and January, 1926, was 17 per cent of the total on line, and the number of passenger locomotives unserviceable January, 1924, was 18.3 per cent and January, 1926, was 17.1 per cent of total passenger locomotives on line.

The decrease in expenditures for maintenance of equipment largely indicate, it is believed, economies effected in the mechanical department of the railroads. This department was specially demoralized during the period of Government operation, but conditions were made still worse by the strike of railway shopmen in 1922; the aftermath of the strike was a considerable period of unduly high expenditures for repairs to cars and locomotives.

*Railway Age* makes an annual compilation of railroad statistics showing the amount of new railroad construction, building of new cars and locomotives, financial changes, etc., and the following figures are taken from its annual statistical number: The total number of miles of first track built in United States in 1926 was 1005, as compared with 644 in 1925. Of this, 242 miles were new lines built in Texas, in large part by the Southern Pacific, and 233 miles of new lines were built in Florida largely by the Seaboard Air Line Railway. Arizona was the only other state in which more than 100 miles of first track was built, and here the Southern Pacific did the building and completed



145 miles. The number of miles of railroad abandoned in the United States in 1926 totalled 457 as compared with 606 in 1925.

There were 1301 locomotives ordered for domestic service in the United States in 1926, as compared with 1055 ordered in 1925 and 1413 in 1924. These, it will be noted, are orders for new business, and are not a measure of the output of locomotive builders' plants. The number of locomotives built for domestic service in 1926 was 1585, as compared with 994 built in 1925. This includes in both cases Canadian production. These figures for locomotives ordered and built, as well as the figures quoted below for cars ordered and built, are arrived at by *Railway Age* with the greatest possible care, but, since questionnaires have to be sent to a great many different persons, there are probably slight inaccuracies or inconsistencies, due to different interpretations placed upon some questions by different men.

The new departure in locomotive design, of building three-cylinder engines, beginning after the War, was continued in 1926. Thus, the American Locomotive Co. built a three-cylinder 4-12-2 type of locomotive for the Union Pacific, and the Baldwin Locomotive Works built a three-cylinder compound high-pressure locomotive which was exhibited at the American Railway Association convention in June at Atlantic City. By "4-12-2 type" is meant a locomotive which has four wheels on the forward truck, twelve driving wheels and two trailing wheels under the cab.

As in the case of locomotives, it is necessary to distinguish between cars ordered and cars built. In 1926 *Railway Age* estimated that orders were placed for 67,029 freight cars as compared with 92,816 freight cars ordered in 1925 and 143,728 ordered in 1924. There were 1495 freight cars ordered for use in Canada in 1926, and 1971 ordered for export to other countries. This compares with 642 freight cars ordered for Canada and 2138 freight cars ordered for export in 1925.

The number of freight cars built in 1926 was estimated at 88,862, and compares with 105,934 built in 1925 and 113,761 built in 1924. The following figures are for an all-steel hopper car built for the Chicago and Eastern Illinois by the Mount Vernon Car and Manufacturing Co.:

Capacity 70 tons  
Weight empty 56,400 lbs.  
Length inside 39 ft.  
Length outside 39 ft. 8½ in.  
Cubic capacity 2,590 cu. ft.

Of passenger cars ordered for service in the United States and Canada and for export, there were 2162, comparing with 2317 in 1925 and 2679 in 1924. The total number of passenger cars built in the United States in 1926 was 2286 and in Canada 285, making a total in the two countries of 2571, comparing with 2380 built in 1924.

There were more miles of automatic block signals installed in 1926 than in any year for which the Interstate Commerce Commission or *Railway Age* has any record. Automatic block signals were installed on 4993 miles of road in the United States and Canada during 1926, comparing with 1758 miles equipped with automatic block signals in 1925. There were only 100 miles of road equipped with manual block signals.

During 1926 there were only two railroad

companies that went into receivers' hands, and one of these had only 40 miles of railroad, while the other one had not been completed and was not in operation. *Railway Age* records for receiverships extend back to and include 1876, and for number of companies and mileage 1926 was the lowest during this entire period. The next lowest was 1901, with four companies placed in the hands of receivers, operating 73 miles of railroad. The year showing the greatest number of receiverships or companies, and with the largest mileage, was 1893, with 74 companies and 29,340 miles of road. In 1925 there were five companies, operating 11,130 miles of road (this includes the Chicago, Milwaukee and St. Paul.) For an account of the receivership of the Chicago, Milwaukee and St. Paul, see the 1925 YEAR BOOK.

Again using *Railway Age* figures: It was estimated that up to Dec. 26, 1926, the par value of all railroad financing was \$446,013,200, of which \$236,954,000 was the sale of bonds; \$167,482,000 the sale of notes; and \$41,577,200 the sale of stock. The most noteworthy financing through the sale of railroad company stock was that of the Southern Railway, which sold \$10,000,000 common stock to its own stockholders, and that of the Atlantic Coast Line, which sold \$13,756,580. The Southern Railway is mentioned first because up to a few years previously the company's earnings and credit were such that it could only sell bonds at a comparatively high cost in interest rate, and its ability to sell stock at par was an outstanding achievement in rehabilitation of a railroad company's credit.

The change in a railroad company's dividend rate which aroused the widest public interest was the increase in the annual rate of dividend of the Pennsylvania Railroad Co., stock from 6 per cent to 7 per cent. Other important changes were Baltimore and Ohio, which increased its annual dividend rate from 5 per cent to 6 per cent, and an extra dividend of 3 per cent was paid on Norfolk and Western common in addition to the regular 7 per cent rate. Missouri, Kansas and Texas preferred Series "A" stock was put on a 6 per cent annual dividend basis, and the annual dividend rate of the Chesapeake and Ohio was raised from 4 per cent to 8 per cent, and in addition there was an extra dividend of 4 per cent declared, making a total of 12 per cent in 1926.

In September, 1926, the Interstate Commerce Commission which, under the provisions of the transportation act, has jurisdiction over the issuance of railroad securities, refused its approval to the issue of \$4,665,000 4½ per cent equipment trust certificates of the Illinois Central Railroad, and ordered the railroad company to ask for competitive bids. The proposed sale was to the regular bankers of the Illinois Central, Kuhn, Loeb & Co., of New York. The original bid price was 98.43. The railroad company, therefore, asked for competitive bids from other bankers, and received a bid from Halsey, Stuart & Co., of Chicago, of 98.815. This bid was approved by the commission.

The commissioners, in approving of the issue of \$2,670,000 4½ per cent equipment trust certificates of the Western Maryland Ry., at the highest price offered by nine competing bidders, indicated that in the case of equipment trust certificates, at least, they desired to see the railroad companies ask for competitive bids.



In the financing of American railroads certain practices have developed, and asking for competitive bidding is counter to these practices. The theory on which railroad executives and financiers have proceeded is that a railroad company in the long run gets its money more cheaply, and is better able to get new money or to refund maturing issues, by dealing with one banking house or group of banking houses. Thus, railroads were classified as Morgan roads, Kuhn, Loeb roads or Speyer roads, as they did their financing through J. P. Morgan & Co., Kuhn, Loeb & Co., or Speyer & Co. Banking houses such as these are known as houses of original issue, and there are only a few of them in the United States. The argument ran that a continuing relationship with the same banker permits of a consistent and economical plan of financing, and since the banking house takes a definite responsibility when it sells the securities of a railroad company to its own customers, it will be inclined to undertake to furnish money to a road which is temporarily in financial straits or is temporarily showing poor earnings. The theory would appear to be correct, and such a procedure is economically sound so long as the banking house performs its functions in good faith.

In the case of the receivership of the Chicago, Milwaukee and St. Paul Ry. Co., in 1925, bankruptcy was caused by the failure of the railroad company's regular bankers, Kuhn, Loeb & Co., and the National City Co., to undertake to refund about \$40,000,000 of bonds which were due June 30, 1925. Here, because of the unwritten law that a railroad company must not shop around with its securities, but must deal exclusively with its regular bankers, the failure of the banking houses to attempt to sell bonds in order to pay the issue that was due resulted in hardship to the holders of hundreds of millions of securities, both junior bonds and stock. The reasons given for the refusal to undertake the financing was that the fixed charges of the Chicago, Milwaukee and St. Paul were higher than could be earned regularly under the conditions that now exist in the Northwest.

The Interstate Commerce Commission was carrying on an exhaustive investigation into this receivership, and this fact may or may not have had some influence in the commission's determination to make a start toward requiring competitive bidding.

It was probable that the commission still had an open mind as regards competitive bidding, since it approved an issue of \$11,336,000 equipment trust certificates of the Seaboard Air Line Ry. Co., to Dillon, Read & Co., the road's regular bankers, without laying great stress on competitive bidding. The road asked for bids from other bankers, but accepted the bid of its own bankers on the ground that, taken from a broader point of view than that of price alone, the bid was the most advantageous one received.

The total cost of the equipment was \$11,336,000, which was the face value of all the equipment trust certificates issued against it. It is customary, in the issuance and sale of equipment trust certificates, for the railroad company to put up about 20 per cent of the total cost of the equipment in cash and raise the remainder through the sale of the certificates. This, of course, gives the certificate holders an immediate cash equity of 20 per cent, which is further

increased as the equipment trusts are paid off serially each six months. The Seaboard Air Line Ry. had been using its cash to rehabilitate its property, after paying bond interest, and it was not, therefore, in a position to put up a 20 per cent cash equity.

During the period of Federal control, the Government purchased equipment for the roads which it was operating, and issued equipment trust certificates which were divided between prior-lien certificates and subordinate-lien certificates. With the stronger roads, it was found that both prior-lien and subordinate-lien equipment trust certificates could be sold to the public. The Seaboard Air Line Ry., with this as a precedent, divided the \$11,336,000 equipment trust certificates into two parts, \$9,060,000 being 4½ per cent first (prior) lien certificates and \$2,276,000 second (junior) lien certificates, and Dillon, Read & Co., the bankers, bought both issues, thus conserving to the company its cash.

The Interstate Commerce Commission, in adopting the attitude that it did in regard to the Seaboard equipments, apparently gave recognition to the fact that it can function most effectively both for the protection of purchasers of railroad securities and for the protection of the railroads—which of course means railroad stockholders—by taking into consideration the broad questions of the whole financial and operating problems which face a railroad management. By conserving the Seaboard's cash the company was able to install automatic block signals, which is an important factor of safety for the traveling public, replace wooden bridges with steel bridges, and make other additions and betterments which tended toward better service and more economical operation of the road. Such expenditures can, of course, be capitalized, and later the Seaboard will have the right to draw bonds against such capital expenditures and to sell them, thus reimbursing itself, but it would have been expensive to do this at the very time that it was offering to investors over \$11,000,000 of equipment trust certificates.

It would appear, therefore, that this action on the part of the commission was significant and of great importance, and if it marks a step toward closer coöperation between railroad financiers and the Interstate Commerce Commission it may well be one of the very important events affecting the railroads which took place in 1926.

On Mar. 2, 1926, the Interstate Commerce Commission refused the application of the New York, Chicago and St. Louis to acquire and consolidate the Chesapeake and Ohio, Hocking Valley, Erie, and Pere Marquette. The majority decision held that as a matter of public interest and general economies the consolidation was desirable, but in substance held that the methods used to bring about the consolidation were not fair to security holders and not of the type to which the commission would give its approval. In outline, the method adopted was that of purchase of a controlling block of stock in the case of the Chesapeake and Ohio and the Hocking Valley, and the election of directors in sympathy with the merger plans; and in the case of the Pere Marquette and the Erie, obtaining the consent of the necessary number of directors by negotiation with this comparatively few number of men. The directors of the various companies voted to approve of the lease of the

Chesapeake and Ohio, Hocking Valley, Erie and Pere Marquette to the New York, Chicago and St. Louis. The offer was then made to the stockholders of these companies to exchange their securities for securities in a new company which would control the operation of all of the properties.

The Interstate Commerce Commission was particularly emphatic in its condemnation of the methods used by the Van Sweringens, who were in control of the New York, Chicago and St. Louis, to force minority stockholders to deposit their securities under the plan of consolidation. These methods were similar to those of a collection agency where the delinquent first receives only a moderately polite request that he remit, followed, in case he does not remit, by a stern and somewhat threatening letter, after which the debtor receives a personal call from a high-powered collection agent whose business it is to inspire a sufficient amount of fear in the debtor to move him to make a payment. Similarly, the holder of Pere Marquette or Chesapeake and Ohio minority stock would receive a series of letters and a similar suggestion of intimidation. The Interstate Commerce Commission refused to approve such methods. Very little progress was made toward the actual consummation of consolidations. The Interstate Commerce Commission denied the application for the proposed lease of the Virginian Ry., to the Norfolk and Western on the ground that it would not be in the public interest. The Kansas City Southern asked permission for authority to acquire control of the Missouri-Kansas-Texas and of the St. Louis-Southwestern, the Missouri-Kansas-Texas already owning a controlling stock interest in the St. Louis-Southwestern. This application had not been passed on by the Commission, at the end of the year.

A field of general industry which was being affected by railroad purchases was that of the automobile, both passenger cars and freight trucks. Railroads were experimenting in the operation of their own highway motor vehicles as a supplement to their rail service, in order to hold revenues from the transportation of passengers and freight where motor-car competition could take the business away from the steam railroads. The results of such experiments in 1926 would tend to show that the railroads can profitably enter into this business. It was believed that the Baltimore and Ohio's experiment in running fast comfortable motor coaches from hotels in the heart of Manhattan to the Reading-Baltimore and Ohio passenger station on the west shore of the Hudson River had resulted in satisfaction to the patrons of the road and in the development of business that without this service would have gone in part to competing lines.

The principal changes in the personnel of railroad officers were: Frederick D. Underwood, president of the Erie Railroad since 1902, resigned and was succeeded by John J. Bernet. Mr. Underwood began railroad work on the Chicago, Milwaukee and St. Paul as a clerk. He changed from office work to outdoor labor within a short time, and became a brakeman and then a foreman of elevators, a conductor and then a yard master. After he had been made president of the Erie and had brought that road through what appeared to be almost inevitable receivership, had rehabilitated it and made it a first-class

freight trunk line between New York and Chicago, he said that the hardest job he ever had was yard master in the Minneapolis yards of the Chicago, Milwaukee and St. Paul. He was promoted from yard master to assistant division superintendent and then to superintendent, and later was made general superintendent of construction of the Minneapolis and Pacific, now a part of the Minneapolis, St. Paul and Sault Ste. Marie, and was finally made general manager of the Minneapolis, St. Paul and Sault Ste. Marie. After 13 years, in 1899 he became general manager of the Baltimore and Ohio and was later elected vice-president, from which position he went to the Erie in 1901 as president. Mr. Underwood had the backing of the late E. H. Harriman, and with this backing he refused to take the Cincinnati, Hamilton and Dayton and Pere Marquette off the hands of J. P. Morgan & Co. He was president of the Erie in 1907, when Mr. Harriman gave his own check for the payment of Erie bonds rather than let the Erie go into receivership. Frederick D. Underwood is a notable example of the older generation of railroad men who became executives after having started in the lowest ranks of railroad employment.

In December, 1926, Charles N. Whitehead (q.v.), president of the Missouri-Kansas-Texas, died, and Columbus Haile, vice-president in charge of traffic of the Missouri-Kansas-Texas, was elected president. On Dec. 20, 1926, W. R. Scott (q.v.), president of the Texas lines of the Southern Pacific, died.

**LABOR SITUATION.** In January, a bill was introduced into Congress by Chairman Watson of the Senate committee on interstate commerce, embodying a plan for the adjustment of railway labor disputes. This plan had been agreed upon by representatives of the railroad managements and of the railroad labor organizations. It provided for the abolishment of the Railroad Labor Board and provided for the creation of boards of adjustment and a board of mediation to be appointed by the President, and prescribed the methods of submitting railroad labor disputes to arbitration. It also gave the President authority to appoint an emergency board of arbitration should occasion arise. The board consisted of Samuel E. Winslow, Edwin P. Morrow, Carl Williams, G. W. W. Hanger and Hywel Davies. The bill was passed by the senate in May.

In February, the general chairman of the Order of Railway Conductors and the Brotherhood of Railroad Trainmen submitted demands for a wage increase in train and yard service averaging about 20 per cent over existing scales, and ranging from 15 per cent in the case of passenger conductors to more than 27 per cent in the case of passenger trainmen. On October 28 the board of arbitration began hearings on this application, and on December 2 granted an increase of 7½ per cent in wages to trainmen employed on Eastern railroads.

In December, also, wage increases ranging from one to three cents an hour were granted by the Western railroads to shopmen. The increase affected about 40,000 men.

**LEGAL DECISIONS.** The only important decision directly affecting railways during the year was a decision by the United States Supreme Court upholding the authority of the Interstate Commerce Commission under the transportation



*Herbert Photos, Inc.*

THE UNITED STATES RAILWAY MEDIATION BOARD OF 1926

LEFT TO RIGHT: SEATED—E. P. MORROW OF KENTUCKY, COLONEL SAMUEL WINSLOW OF MASSACHUSETTS, G. W. W. HANGER OF WASHINGTON, D. C. , STANDING—HYVEL DAVIES OF CALIFORNIA, AND CARL WILLIAMS OF OKLAHOMA



act to authorize the abandonment of a branch railway line that runs wholly within the boundaries of a State.

**RAILWAYS, ELECTRIC.** The Great Northern Railway, as mentioned in the YEAR BOOK, 1925 (see RAILWAYS, ELECTRIC) completed the construction of a new power supply line and the equipment of 24 miles of main line in the Cascade Mountains. Two electric locomotives were delivered by the Baldwin Locomotive Works and the Westinghouse Electric and Manufacturing Co., for operation on the newly installed system. They were notable on account of being built with motor-generator equipment, which received energy at 11,000 volts, single-phase, 25 cycles; and through the use of a step-down transformer the current energized a synchronous alternating current motor which in turn drove a direct-current generator supplying 1500-volt direct current to the main traction motors of the locomotive. These engines were of two-unit type and almost 7000 horsepower. They were 94 ft. long, and they weighed 715,000 lb. and had a continuous rating of 88,500 lb. tractive effort at 15.5 miles per hour. The electrical system was arranged for regenerative braking, giving excellent control of heavy trains on descending grades by means of so connecting the motors that they ran as generators, the current thus developed being returned to the overhead line.

The Illinois Central R. R., which had been pushing electrification work on its suburban district in Chicago, began during the year operation of 106 miles of track so equipped, putting in service more than 200 multiple-unit passenger cars supplied by 1500-volt direct current through an overhead catenary conductor system. A contract was made with the Commonwealth Edison Co., of Chicago for furnishing the electric energy required.

The Pennsylvania Railroad was building at its Juniata shops six locomotives for service between New York City and Manhattan Transfer, N. J. The motors and other electrical equipment for these engines were supplied by the Westinghouse Electric & Manufacturing Co. The general arrangement was somewhat similar to the electric engines used for some years by the Pennsylvania in its New York City Service, except that the structure was a single unit with two pairs of driving axles and the truck at each end had only one axle instead of two, as in the older design. The driving wheels were actuated by side rods from a jack shaft, which was driven, through pinions and flexible gears, by two 600-volt, d. c. motors. The wheel arrangement was thus 2-8-2, with two motors driving a jack shaft at each end of the locomotive. The motors were expected to develop a total of 3730 hp. and the engine would weigh 400,000 pounds.

In European countries the electrification of steam roads continued, Switzerland adding a large mileage to its already equipped lines, as mentioned in the 1925 YEAR BOOK. In France, the Paris-Orléans Railway system had completed its electrification as far as Vierson, energy being supplied from the hydro-electric station situated at Eguzon. The Midi Railway was operating 240 miles by electric power at the end of 1926, the P. L. M. system 14 miles and the State Railways 30 miles. New installation was also progressing on the Paris-Brives, Paris-Toulouse and on two cross lines, St. Sulpice-Gannat and Brives-Clermont. See RAILWAYS.

**RAMSAY, FRANKLIN PIERCE.** American educator and clergyman, died September 30, at West New Brighton, New York City. He was born in Pike County, Alabama, in 1856. Before entering the seminary at Columbia he took a course at Dickinson College in North Carolina. He was ordained by the presbytery of Western Texas in September, 1881, and he later held pastorates at Laredo, Tex., Dublin, Va., Baltimore, Md., and Augusta, Ky. After this he became president of the Presbyterian College at Fredericksburg, Va., and later president of Oxford College, Alabama. From the latter he went to Clarksburg, Tenn., as professor of philosophy in the Southwestern Presbyterian University, a university later moved to Memphis. Subsequently he went as professor to the University of Omaha, and then to Kendall College, Tulsa, Okla. Dr. Ramsay held tenaciously to the fundamentalist viewpoint throughout the controversy of recent years in the Presbytery of New York although in his younger years he had suffered no little at the hands of the Fundamentalists in the South for his defense of the late Professor Woodrow, grandfather of the late President Wilson, when there was a concerted effort to bring Professor Woodrow to trial for heresy. Dr. Ramsay's last book was *The Virgin Birth*, a discussion from his own decided viewpoint of an age-old controversial subject.

**RAPID TRANSIT.** NEW YORK SUBWAY SYSTEM. In 1926 the route mileage of rapid transit structures awarded for construction amounted to 5.82, of which 4.32 were in the city system and 1.5 miles in the Brooklyn-Manhattan Transit system. The city board of transportation received proposals for construction work amounting to \$75,773,149, embracing eight route miles containing approximately 21 miles of track, and awarded construction contracts amounting to \$55,563,737, giving daily employment to 10,000 men. The awards made during 1926 were divided as follows: City's new subway system, \$47,736,576; Interborough, \$1,526,604; B. M. T. system, \$5,956,724; and miscellaneous, \$343,833. The board of transportation, in addition to the foregoing, received bids aggregating \$20,209,412 for three sections of proposed new Manhattan-Queens route to connect these boroughs via 53d St. and under the East River. Litigation instituted by the Central Park West and Columbus Avenue Association resulted in restraining the board from awarding the connecting-link contracts. At the end of the year, there were under contracts for the city's new subway system 25 sections of the Washington Heights, Central Park West, Eighth Ave., Sixth Ave., and Church St. routes, amounting to \$118,821,252 and extending from Fulton Street to the northerly end of Manhattan. This is the main trunk of the system, from which branches were to spread out under the Harlem River to the Bronx, under the East River at 53d St., Rutgers St., and Fulton St., to Brooklyn and Queens. At the end of the year, contract drawings for the Fulton St., Manhattan-Cranberry St., Brooklyn, connection were practically ready for advertising, and after settlement of the litigation that was involved in the construction of the 53d St., route under Welfare Island to Long Island City, where the Brooklyn and Queens lines adjoin, the board was prepared to take action to award this contract.

The board of transportation awarded four

contracts for lengthening the platforms of 40 stations in the B. M. T. system in Brooklyn and Manhattan, so as to accommodate 8-car trains, being 539 feet in length, so that the passenger-carrying capacity of each train would be increased by 33½ per cent and the length of all trains in service on the B. M. T. system would be standardized. The board also awarded the contract for the construction of a transfer connection between the subway and the elevated lines at 149th Street and Third Ave., in the Bronx, and for an additional passageway at Canal and Varick Sts., to accommodate the approach of the New York and New Jersey vehicular tunnel.

**PHILADELPHIA SUBWAYS.** During the year, work was in progress on six contracts for the construction of 6½ miles of four-track subway in Philadelphia, extending from City Hall to Fern Rock terminal yard, north of Aulney Ave., and for grading the terminal yard, about 33 acres. This work involved an expenditure of \$57,000,000, and was substantially completed at the end of the year, some 28 months having elapsed from the date of breaking ground. Three contracts, with a total length of 3½ miles, were entirely finished at the end of the year, and the remaining three were completed with the exception of some grading and minor details of construction. Two miles of Broad St., were permanently repaved, and additional paving was under way. The work in the terminal yard involved the construction of the inspection shops and the general repair shop buildings. There were also under construction two of the three sub-station buildings required for operating the subway, and the rails and special track work were being delivered, and track laying was in progress. Contracts had been awarded for 150 steel passenger cars to be delivered between May 1 and October 1, and other equipment was being provided for, so that operation of the subway could be carried on by the end of 1927.

**CHICAGO.** During the year various projects were proposed to solve the rapid-transit problem which, as in other American cities, had become one of pressing importance with many complications, of which the matter of the cost and the apportionment of the cost was not the least. Toward the end of the year, the city council approved a plan recommending the part payment of the cost of subway and elevated railway extensions by special assessment on property benefited. It was not certain whether such a method of providing funds was practicable or legal, but it was recommended by an advisory commission which included representatives of large property interests in the business district, in whom would fall a large share of the assessment. The commission which prepared this report recommended that the board of local improvements should institute local improvement proceedings for the proposed Ashland Ave., extension and the Wells and Polk Sts. extension of the elevated line, and that such part of the cost of these improvements as was not provided by assessments should be paid from the city's reaction funds. It was also proposed that there should be a consolidation of the surface and rapid-transit lines to secure unified service, but this was complicated by the fact that some of the surface lines were in the hands of the receivers, so that such a proceeding would be difficult. The commission recommended the construction of two

subways, one for rapid-transit service by the elevated railway trains, extending under State St., from 13th St., to North Ave., connecting with the elevated lines at each end, and affording four tracks for part of the distance. The other subway, for West Side street cars, would form a double low-level loop connecting the existing Washington St., and Van Buren St., tunnels under the river and running east under Washington St., south on Michigan Ave., and west on Jackson St., then diverging south to the Van Buren St. tunnel. This loop would pass under the rapid-transit subway. These two subways would be constructed, according to the recommendations, with an assessment on the property benefited to cover not less than 55 per cent of the cost. The estimated cost of the north and south line was given as \$23,950,000, and \$12,450,000 for the loop line.

**ST. LOUIS.** In September a plan prepared by Consulting Engineer C. E. Smith was submitted, calling for the construction of a subway system which was to be built in three stages. This plan was quite comprehensive, and involved an estimated outlay for the three stages as follows: \$40,000,000, \$72,000,000, and \$100,000,000.

**LONDON.** On September 13 there was put in service the extension to the Charing Cross, Euston, and Hampstead railway from Charing Cross in a double tunnel under the Thames and past Waterloo to Kennington, where connection was made with the City and South London, and the extension of the latter line from Clapham Common to Morden. During the year the single line between Hounslow Central and Hounslow West was doubled, the additional line and a new island platform at the latter station having been put in service December 11.

**RAYMOND, WILLIAM GALT.** American engineer and educator, dean of the College of Applied Science at the State University, Iowa City, Ia., died June 17, at Iowa City. He was born at Princeton, Ia., Mar. 2, 1859, attended the University of Kansas, and took his C. E. degree at Washington University in 1884. From 1884 to 1890 he was instructor in civil engineering at the University of California, and from 1892 to 1904 was professor of geodesy, road engineering, and topographical drawing, at Rensselaer Polytechnic Institute, Troy, N. Y. From 1904 to 1922 he was professor of civil engineering, becoming the professor of engineering in 1922. In 1905 he became dean of the College of Applied Sciences, State University of Iowa, and in the same year he received the degree of LL.D. from Washington University. In 1919 he received the degree of Doctor of Engineering from the University of Michigan. He was a member of the American Society of Civil Engineers, and from 1913 to 1915 president of the Iowa Engineering Society. Among his many publications are *Plane Surveying*, 1896; *Railroad Field Geometry*, 1910; and the *Railroad Field Manual for Civil Engineers*, first published in 1915.

**RAYON.** The phenomenal growth of rayon production throughout the world and particularly in the United States continued in 1926. The world production was estimated by *The Textile World* (New York) at 210,000,000 pounds and that of the United States alone at 62,575,000 pounds, of which seven concerns were responsible for all but 500,000 pounds, the leading firm having a production of 37,000,000

pounds. For 1927 there was in the United States a capacity for the production of 73,500,000 pounds. This growth was remarkable since in 1920 the United States produced but 9,000,000 pounds and the world 50,000,000 pounds. The industry in the United States in 1926 was on a strictly competitive basis, and, in addition to the domestic consumption, considerable rayon was imported during the year, as well as rayon waste and yarns made from rayon waste. The principal consumers of rayon in 1926 were the hosiery and underwear manufacturers, each group taking approximately 25 per cent of the domestic production. These were followed closely by the manufacturers of cotton goods, while silk manufacturers took a certain amount. The use of rayon in the knitting industry, especially for the manufacture of underwear, had grown with rapidity, as, with the reduction in size of the individual filaments, this material became adaptable for the finer classes of goods as well as for the heavy fabrics such as were employed for sweaters, dresses, and outer wear. A somewhat special process of manufacturing rayon knit goods had been evolved and had proved remarkably successful. During the year there had been a decline in prices, amounting to about 27½ per cent so that in the closing months it was believed that the industry had reached the stage where further price reductions, if any, could only come from improvements in manufacturing or an improved technique.

In the year 1926 the United States imported rayon valued at \$13,898,990, as compared with \$13,118,307 in 1925. The 1926 imports included 14,690,810 pounds of yarn waste and thread valued at \$10,463,466. The exports of rayon in 1926 were valued at \$7,680,704, as compared with a value of \$8,700,543 in 1925. This included 1,251,735 dozen pairs of hosiery valued at \$4,708,921 and other manufactures having a value of \$2,971,783.

In Great Britain a number of firms organized in 1925 were in production in 1926 and prices were maintained for the product during the year. One of the largest companies had established factories in the various consuming countries, while the export trade was being developed, though in the export trade Great Britain was finding competition with the other countries of Europe. In Great Britain the imports of rayon yarn dropped from 11,780,564 pounds in 1925 to 2,300,576 in 1926, due almost entirely to the application of customs duties on July 1, 1925. The imports of manufactures of rayon, however, did not change very much and the duties did not affect this trade. In 1925 the total imports of manufactures of rayon were 3,765,277 pounds and in 1926, 3,758,238 pounds. There was an extraordinary increase in the exports of rayon manufactures in Great Britain, these amounting in 1926 to £5,425,496, as compared with £3,068,782 in 1925. The exports of yarn reached 5,838,870 pounds in 1926, as compared with 7,202,708 pounds in 1925.

In France rayon was being manufactured not only by French firms but by various foreign concerns, and there was considerable keen competition. At the close of the year in France the textile designers were developing fancy designs in which rayon was being used in a great variety of fabrics for the new season. Rayon was being combined, both white and colors, with cottons, linens, crêpes, kashas, or other silks. A number

of newer fabrics were so fine and carefully woven that mixtures of rayon were included among materials of the highest grade.

The industry in Belgium also was prosperous, with exports going to France, Germany, and Italy, while imports increased both from Italy and France. The Belgian industry was beginning to feel competition, both from other nations and within its own boundaries, so that prices had fallen. In Germany the rayon manufacturers met with competition from the Italian producers and the industry was endeavoring to standardize and grade the product. In Holland the rayon industry had established a reputation for the quality of its output and the exports were being taken by various countries. In Italy rayon underwent a severe depreciation in the opening months of the year, but recovery took place, so that there was an increased production and export, though the English duties which came into effect on July 1, 1925, reduced the exports to that country. In Czecho-Slovakia the factories were organized so that the raw material, wood pulp, could be obtained within the country's own borders, and it was said that, while the product was made at slight profit, it was being sold at as low prices as anywhere in the world.

**RECLAMATION.** During 1926 the level of prices of agricultural products in the world markets was not such as to encourage land reclamation on a large scale. Nevertheless, there was great activity in various countries in making provision for future reclamation and also in actual construction of reclamation works.

**IRRIGATION.** In the United States in 1926 there was little activity in actual land reclamation, but there were very important developments in the reclamation policies of the Federal Government. Under an act passed in 1924, the projects already established were surveyed, with a view to writing off construction charges against lands in these projects that had been found to be unproductive and, therefore, unable to pay construction charges. The results of these surveys were reported to Congress and by the act of May 25, 1926, Congress provided definitely for writing off construction charges amounting to \$14,667,965, levied against lands classed as "permanently unproductive," and for the suspension of charges amounting to \$12,788,406 against lands classed as "temporarily unproductive." In the reports of the Bureau of Reclamation the latter amount is classed as "probable loss." The largest loss reported was on the Newlands project in Nevada, where it was recommended that \$4,536,396 be charged off. Since the charges written off and suspended were levied against unproductive land, it is not probable that they could have been collected; writing them off is largely a matter of bookkeeping and the acknowledgment of an existing condition. However, this act clears the way for the adoption of a new policy advocated by the Bureau of Reclamation and adopted by Congress; that is, the requirement that land owners shall enter into contracts assuming joint liability for construction charges, to replace the old contracts under which each was liable for only his proportional share of the cost. Under the new contracts, all of the productive land remaining in each of the projects is jointly liable for the remaining construction charges for that project; the owner of productive land must pay the same average charge per acre for which his land

was previously liable, and, in addition, his land is liable for charges against other land now classed as productive but that may become unproductive from any cause. His previous obligation becomes a minimum liability, with no fixed maximum limit. In return for assuming this added obligation, the land owner is given an extension of time of payment on his unpaid construction charges, still without interest on deferred payments. On the assumption that the land owner would have made his payments under the old contract, the extension of time is equivalent to a loan for a long period of years, without interest. It is probable that the value of such a loan is great enough to offset fully the added liability assumed under the new contracts.

The act of 1924, previously referred to, provided for basing repayments, on each project, on average gross returns per acre from farming on that project. This, in most cases, would have amounted to a great but indefinite lengthening of the period of repayment beyond the 20-year period provided for in the previously existing law. The law of 1926 repealed the crop-payment plan except as to pending contracts, and provided a repayment period of not to exceed 40 years. Many contracts involving the crop-payment plan were pending and will be executed, thus giving extensions of time of 20 to 50 years or more in the periods of repayment. For new projects and those not entering into the crop-payment contracts, there is a maximum repayment period of not to exceed 40 years, with joint liability on each project. The new legislation provided also for the selection of settlers on new projects, and made the construction of these projects conditional upon the owners of private lands in excess of 160 acres agreeing to sell their surplus land at prices satisfactory to the Secretary of the Interior. Congress made appropriations in 1926 for new projects that included about 350,000 acres, and had an estimated cost of about \$80,000,000.

The annual report of the Bureau of Reclamation for the year ended June 30, 1926, gives the following statistics: The total area provided with water was 1,802,970 acres; the area irrigated was 1,320,300 acres; the total area cropped was 1,242,750 acres. Of the total area of crops harvested, disregarding double cropping, nearly one-fourth is in cereals, and one-half is in hay and forage crops, leaving only a little more than one-fourth of the acreage producing vegetables and truck (5 per cent), fruits and nuts (3 per cent), sugar beets (4 per cent), and cotton (15 per cent). The total construction cost to June 30, 1926, is given as \$168,526,901; as previously stated, the construction charges written off were \$14,867,965, slightly more than 8 per cent of the total cost; and the construction charges suspended and classed as probable loss were \$12,788,371, or slightly less than 8 per cent of the total. To June 30, 1926, the total expenditures under the reclamation act had been \$214,126,532 and the total collections have been \$66,48,012; leaving a net investment of \$147,278,520. In December, 1926, the Secretary of the Interior issued a statement containing a tentative programme of expenditures for the 10 ensuing years, in which it was stated that the completion of the projects already provided for would require all the estimated receipts of the reclamation fund during that period, and recom-

mending that there be no provision for new projects for the present. There was almost no activity in the construction of irrigation works by private enterprise in 1926.

**DRAINAGE.** During the year 1926 there was little drainage construction in the United States. Large drainage districts in the Mississippi valley and in Florida that constructed works in recent years were engaged in efforts to bring into use the land already drained, rather than in new construction. Settlement progressed so slowly that many of the districts found it difficult to collect taxes and meet their financial obligations. As a consequence, it was very difficult to finance new drainage projects, and there was a growing demand for Federal relief for existing drainage districts, and Federal financing of new projects.

**OTHER COUNTRIES.** Canada, like the United States, was passing through a period of adjustment after a period of overbuilding, with little construction. The Mexican Government entered upon a reclamation campaign in which it was proposed to add some 600,000 acres to the irrigated area, at an estimated cost of \$20,000,000, or about \$33 per acre. A law promulgated Jan. 9, 1926, created a national irrigation commission to handle this work, and an American engineering company was engaged to make surveys and construct the works decided upon. It was planned to complete most of the work within the ensuing two years. An expenditure of 20,000,000 pesos during 1926 was authorized. The Bolivian Government investigated the possibilities of irrigating the Altiplano, a dry plateau containing about one-fourth of the total area of that country. It appeared that there were artesian supplies sufficient for a large part of this area. The Chilean Government proposed to undertake several irrigation projects in the provinces of Coquimbo and Atacama. An expenditure of 25,000,000 pesos received from the rental of Government lands was authorized. The programme for public works in Argentina for 1926 included the expenditure of about 6,600,000 pesos for irrigation works. The Haitian Government had under consideration the irrigation of about 60,000 acres of land in the Artibonite valley, at a cost of about \$50 per acre.

By a royal decree of Mar. 5, 1926, Spain adopted a new system of stream control and development of its water resources. This provided for the creation of districts to control the use of the water of tributary streams, and for the confederation of the districts within each drainage basin to control the main stream and the tributaries. The purpose was the most economical use of the water resources of Spain for power, agriculture, and navigation. The whole administration of the streams was turned over to federations. Federations could be set up on application of interested parties or on Government initiative, and all local bodies or individuals interested in the use of the stream involved were obliged to participate. The Government aided in financing enterprises by direct contributions and by loans. A decree of the same date provided for the creation of such a federation to control the river Ebro and its tributaries. It was estimated that it was possible to irrigate about 1,500,000 acres in addition to 1,000,000 acres already irrigated in this drainage basin, and to develop 1,729,000 h.p. of electric energy. The national subsidy to this enterprise was to be 300,000,000 pesetas, or about 30 per acre of new land. By a royal



order, 5,500,000 pesetas were set aside for irrigation work in 1926. A concession was granted for the drainage of about 30,000 acres in the province of Seville, at an estimated cost of about \$1,000,000. In Greece, projects for reclamation by both irrigation and drainage were under way. The estimated cost of proposed irrigation works was about \$200,000, and of drainage works about \$50,000. In the Sudan, the Sennar dam was opened in January, 1926, making it possible to irrigate a considerable area of land. In Egypt proper, however, construction of the Gebel Aulia dam was suspended. In South Africa, the situation was much the same as with the Federal reclamation projects in the United States—the Government made large advances for the construction of irrigation works, and the land owners have not been able to meet the payments contracted. Consequently, that country is passing through a period of readjustment. In India, construction was in progress on very large reclamation projects. The Lloyd barrage on the Indus, and the canals for distributing the water from this dam, were planned to carry water to about 6,000,000 acres, and to cost about \$70,000,000 for labor and materials. This project was to be completed in 1937. The Sutlej valley scheme in the Punjab includes 5,500,000 acres, and will cost about \$58,000,000. This was to be completed in 1932.

**RED CROSS, AMERICAN.** An organization chartered by Act of Congress in June, 1900, and incorporated in January, 1905. Its purpose is to supply succor to sufferers from the evils of war, and likewise to furnish similar aid in time of peace to sufferers from disaster or from any widespread pestilence or famine. The society is a member of the League of Red Cross Societies, made up of similar societies in 54 nations. A general board directs its activities and manages its affairs. Details of control, management, and administration are delegated to a central committee, and, in time of war, to a war council.

On June 30, 1926, there were 3531 chapters of the American Red Cross. Home service work for disabled veterans and their families was carried on by 2686 chapters, expending \$1,987,000, while the national organization spent an additional \$1,641,178.18 for this purpose. Home service to ex-service men and their families includes assistance in filing death and disability claims for Federal and State benefits such as compensation, bonus, etc., and social or financial aid while adjustment of claims is pending. Hospital social service was conducted in 83 government hospitals, including those of the Veterans' Bureau, Army, Navy, and National Soldiers' Homes, and in eight contract hospitals. Field directors were maintained at all important Army, Navy, and Marine Corps stations and camps, in accordance with the request of the War and Navy Departments that the Red Cross continue to act as "the medium of communication between the American people and their Army and Navy."

The Red Cross rendered service as a relief agency in 90 disasters of various kinds in the year ending June 30, 1926, of which 62 were domestic and 28 occurred in foreign countries, expending in this work \$3,924,902.68, and assisting more than 300,000 persons. Disaster relief was rendered in Colombia, Holland, Belgium, Bulgaria, Syria, Mexico, and Costa Rica, and, among American possessions, in the Philippines,

Alaska, Porto Rico, and Hawaii. The Nursing Service of the organization had 43,503 nurses enrolled as a reserve and a source of supply for the Army, Navy, Public Health Service, United States Veterans' Bureau, and for duty in emergencies, of whom more than 27,000 are active. In 1926, 57,370 students, 38,152 of them school students, were instructed in home hygiene and care of the sick, and 35,610 certificates were issued to them. At the close of the fiscal year there were 798 public health nurses supported entirely or in part by the Red Cross. They made 1,174,539 home visits, 49,254 school visits, and inspected 1,175,128 school children. The nutrition service reached an average of 15,413 individuals a month with regular nutrition instruction.

The year marked the twelfth anniversary of the establishment of the Life-Saving Service, in which 102,070 men, women, and children were enrolled; during the year 7145 men, 5408 women, and 16,713 juniors passed the tests. Volunteer workers in chapters during the year made 145,824 garments, 1,678,409 surgical dressings, and answered 17,890 calls for motor service. More than 100,000 pages of Braille were completed. The Red Cross first aid instruction car was in continuous operation, visiting 125 cities, where 900 meetings and demonstrations were held, with a total attendance of 94,000. Approximately 20,000 certificates were issued to those taking systematic courses of instruction in first aid. Welfare service was provided by 535 chapters for families in communities where no other agency existed for such service.

On June 30, 1926, there were 5,549,428 school children enrolled in the American Junior Red Cross. At the close of the membership year, August 31, the senior membership was 3,012,055. Revenues during the fiscal year ended June 30, 1926, were \$3,206,743.17, or \$4,175,126.18 less than expenditures, and leaving a balance in the treasury of \$17,236,480.40, as against \$21,411,606.58 in 1925. There having been budgeted for the fiscal year \$3,942,392.69, and \$9,489,193.08 set aside for specified activities, there remained on June 30 unobligated funds totaling \$3,804,894.63.

In virtue of his office, the President of the United States is president of the American Red Cross. Other officers in 1926 were: Vice-presidents, Robert W. de Forest and William H. Taft; chairman of the central committee, John Barton Payne; counselor, William D. Mitchell; treasurer, Garrard B. Winston; secretary, Mabel T. Boardman; vice-chairman in charge of domestic operations, James L. Fieser; vice-chairman in charge of insular and foreign operations, Ernest P. Bicknell. Work is centralized in three administrative divisions, one at the National Headquarters in Washington, one in St. Louis, and one in San Francisco.

**REED COLLEGE.** A co-educational, non-sectarian liberal college of arts and sciences at Portland, Oregon; founded in 1911. The enrollment for the fall term of 1926 was 264, of whom 131 were men and 133 women, distributed as follows: freshmen, 100; sophomores, 66; juniors, 52; seniors, 43; specials, 3. The faculty numbered 28. The productive funds amounted to \$1,597,303.40, and the income for the year to \$75,779.24. The library contained 30,481 books and 3000 government documents. President, Norman Frank Coleman, LL.D.

**REFORMED CHURCHES, THROUGHOUT THE WORLD HOLDING THE PRESBYTERIAN SYSTEM, ALLIANCE OF.** This organization was formed in London, England, in the year 1875, with the one great purpose, to encourage comity, co-operation, and efficiency in the accomplishment of Christian work. In its formation many of the leading Presbyterians of America were active, particularly the Rev. William H. Roberts, D.D., for many years Stated Clerk of the General Assembly of the Presbyterian Church in the U. S. A. The First Council was held in Edinburgh, Scotland, in 1877, and the latest or Twelfth Council in Cardiff, Wales, in 1925. There are 106 churches connected with the Alliance, located on all the six continents. The members and adherents of the Presbyterian and Reformed Churches in the world number about 50,000,000, including those in the Evangelical Church in Germany, which has about 113,000. It was planned to hold the Thirteenth Council either in Canada or the United States. The president in 1926 was the Reverend Charles Merle d'Aubigne, D.D.; the general secretary was the Reverend John R. Fleming, D.D.; and the American secretary was the Reverend Henry B. Master, D.D., whose offices were at 912 Witherspoon Building, Philadelphia, Pa.

**REFORMED EPISCOPAL CHURCH.** A denomination formed in December, 1873, by clergymen and laymen who had withdrawn from the Protestant Episcopal Church. It was the outcome of an intense discussion carried on over ritualistic tendencies. As indicated in its name, the denomination held that it supported the principles of the Anglican Church of the time of the Reformation, and of the Protestant Episcopal Church as organized after the Revolution. Doctrine and polity, otherwise in general accord with those of the Protestant Episcopal Church, were anti-sacerdotal. A General Council of the denomination meets triennially, and sat at Philadelphia in May, 1924. Since the episcopate is regarded as ancient and desirable but not as existing of Divine right, bishops do not constitute a separate house in the General Council. The denomination maintains a theological seminary at Philadelphia, Pa., and issues from that city a periodical, the *Episcopal Recorder*. Statistics for 1926 were: churches, 81; ministers, 89; church members, 17,300; Sunday school enrollment, 14,500. Bishop Robert L. Rudolph of Philadelphia was presiding bishop of the General Council.

**REFUSE DISPOSAL.** See GARBAGE AND REFUSE DISPOSAL.

**REGIONAL PLANNING.** See CITY PLANNING.

**REID, JAMES SMITH.** British Latinist and historian, died April 1, at Cambridge, England. He was born at Sorn, Ayrshire, Scotland, May 3, 1846, and was educated at the City of London School and at Christ's College, Cambridge. From 1869 to 1872 he was a fellow of Christ's College, and from 1870 to 1880 he was classical lecturer at the same college. He was classical lecturer at Pembroke College, Cambridge, for two different periods, 1873-1878 and 1880-1885. He was made Honorary Litt.D. of Dublin and Hon. LL.D. of St. Andrews. He was a fellow of the British Academy and for a time president of the Roman Studies Society. In 1878 he was made a fellow of Gonville and Caius College, Cambridge, becoming tutor there in 1885. In 1889 he was appointed

professor of ancient history in Cambridge University, becoming professor emeritus in 1925. He published many papers for learned societies and in addition to his numerous critical editions of the classics contributed articles on archaeology and textual criticism to encyclopædias. His most important work is his *Municipalities of the Roman Empire* (1913).

**REINDEER.** See ALASKA.

**RELATIVITY, THEORY OF.** The general theory of relativity explains perfectly, and has been completely confirmed by, the observed phenomena of the anomalous motion of the planet Mercury, the bending of rays of light passing close to the sun during a total eclipse, and the shift of spectral lines toward the red in the spectra of the sun and of the companion of Sirius. No other tenable explanation of these phenomena has yet been discovered, nor has success attended efforts to question the observations or to find errors in the theory. The theory of relativity, received at first with reluctance and hostility, has now won fairly general recognition on the merit of its remarkable achievements in harmonizing the whole of physical theory and in disposing of a number of previously existing difficulties; and although, like all theories of physics, it is subject to modification and extension as occasion may demand, it has undoubtedly come to stay.

The general theory of relativity was founded on the principle of the equivalence of inertia and gravitation, together with certain results of the restricted theory. The former depends on a large amount of reliable and convincing experimental evidence, none of which has been questioned, while the latter was likewise based on the cumulative evidence of a great number of experiments, all of which had failed to give evidence of any measurable effect due to the motion of the earth through the luminiferous æther. The most famous of these experiments was that of Michelson and Morley. Present evidence for the general theory is thoroughly consistent and concordant; that for the restricted theory, is, however, somewhat conflicting.

Of the numerous experiments upon which Einstein originally based his principle of relativity, several have recently been repeated. Tomaschek, at altitudes of 65, 1850, and 11,400 feet (the last being on top of the Jungfrau), has again looked for the magnetic field which should be produced by the motion of a charged condenser through the æther, and also for the force tending to turn such a condenser out of the plane of the relative motion of earth and æther, but was unable to find any such effects as great as would correspond to a relative motion of over three kilometers per second; the second of the effects named was also sought for by C. T. Chase at Pasadena, Calif., with an apparatus of better design than that used by Tomaschek, but with the same negative result.

D. C. Miller, however, as a result of repeating the Michelson-Morley experiment at Mount Wilson during 1925 and 1926, finds a definite, positive effect due to some cosmical cause which he interprets to be an æther drift corresponding to a constant relative motion of the earth and æther of 10 kilometers per second. The variations in the direction and magnitude of this indicated relative motion are such as would be produced by a constant motion of the solar system in space, with a velocity of 200 kilometers per sec-

ond or more, toward a point in Draco near the pole of the ecliptic; but this interpretation requires the assumption that, in effect, the earth drags the æther along to the extent of 95 per cent, and that this drag displaces the apparent azimuth of the motion always about  $45^\circ$  to the west of north; a recalculation of the earlier experiments by Michelson and Morley in 1887 and by Morley and Miller in 1904 shows this assumption to be consistent with Miller's present results.

Miller's work shows, in agreement with previous findings, that the orbital motion of the earth has no perceptible effect; however, the preceding assumptions that are necessary if his results are to be interpreted as due to a motion of the solar system do not seem very plausible, especially in view of the phenomena of aberration, the Michelson-Gale experiment of 1925, etc. To ascribe the results to an æther drift involves many other grave difficulties, also; and in the opinion of several capable investigators the effects observed by Miller must be due to some other cause. As a matter of fact, R. J. Kennedy again repeated the Michelson-Morley experiment, at Pasadena and at Mount Wilson, with apparatus of a new and improved type, and obtained a perfectly definite null result. Piccard and Stahel have carried out the experiment in a balloon, at altitudes of 2500 and 4500 meters, with an accuracy believed to be sufficient to show that the æther drift, if any, does not increase with altitude beyond the value found by Miller.

The actual existence of an æther drift would necessitate some kind of a modification of the restricted theory of relativity, and several possible modifications of the kind have been suggested; just what effect would be produced on the general theory is not yet clear.

St. John, at the Mount Wilson Observatory, in a new investigation of 331 iron lines in the solar spectrum, finds a general displacement toward the red; strong lines have a displacement 50 per cent greater than that required by relativity, while weak lines are displaced 30 per cent too little, these systematic deviations being connected with the levels in the solar atmosphere at which the lines are produced—the level determines the line intensity, and radial motions downward at high and upward at low levels superpose a Doppler shift on the relativity shift. Relativity effects, Doppler shifts, and effects due to differential scattering, taken together, explain the observed displacements quite satisfactorily, but no one of these alone is capable of giving a simple and acceptable interpretation. See PHYSICS.

**RELIGIOUS DENOMINATIONS.** See articles on the respective denominations.

**RENSELAER POLYTECHNIC INSTITUTE.** A non-sectarian institution for the technical training of men at Troy, N. Y.; founded in 1824. In 1926 there were 1307 students enrolled for the fall term, distributed as follows: civil engineering, 379; mechanical engineering, 208; electrical engineering, 491; chemical engineering, 128; business administration, 38; pre-medical, 24; physics, 7; chemistry, 6; special students, 7; graduate students, 19. The faculty numbered 106, an increase of 6 over 1925. The productive funds amounted to \$4,049,000, and the income for the year to \$574,000. The gifts for endowment during the year amounted to

\$134,000, and those for buildings to \$82,000. A library building, with an auditorium, to cost about \$320,000, was in course of construction, as well as the new Caldwell dormitory, which was expected to be finished early in 1927. The library contained 17,313 bound volumes and 19,351 pamphlets. President, Palmer C. Ricketts, E.D., LL.D.

**REORGANIZED CHURCH OF JESUS CHRIST.** See LATTER DAY SAINTS, REORGANIZED CHURCH.

**REPARATIONS.** See GERMANY, under *Reparations*.

**RESEARCH COUNCIL, NATIONAL.** A co-operative organization of scientific men of America, interested in pure and applied science, including engineering and industry. It was established in 1916 by the National Academy of Sciences at the request of the President of the United States, for the purpose of coördinating the research facilities of the country for work on war problems involving scientific knowledge. By executive order it was reorganized in 1918 as a permanent body, its essential purpose being to promote scientific research and the application and dissemination of scientific knowledge for the benefit of the national strength and well-being. It maintains a close coöperation with governmental scientific bureaus and their activities, and has the formal recognition and co-operation of 75 major scientific and technical societies through the country, its membership being composed in large part of appointed representatives of these societies.

The activities of the Council are conducted by a series of major divisions, arranged in two groups. One group comprises seven divisions of science and technology, representing physics, mathematics, and astronomy; chemistry and chemical technology; biology and agriculture; the medical sciences; psychology and anthropology; geology and geography; and engineering and industrial research. The other group consists of five divisions of general relations, as follows: foreign relations; government relations; state relations; educational relations; and research information. Among the larger undertakings of the Council during the year 1926 were the maintenance of about 150 fellowships; work on the preparation and publication of international critical tables of numerical data in physics, chemistry, and technology, undertaken at the request of the International Research Council; the establishment, in coöperation with the American Petroleum Institute, of a Central Petroleum Committee which began a series of fundamental investigations in the physics, chemistry, and geology of petroleum; studies in sedimentation; shoreline investigations of the Atlantic Coast; studies on scientific problems of sex; medicolegal problems; studies in the physical causes of deafness and the tactual interpretation of oral speech and vocal control by the deaf; studies in tropical biology; studies in industrial lighting; research in construction of highways; studies in electrical welding and electrical insulation; studies in child development; studies in racial differences.

The financial support of the Council is derived first from a gift of \$5,000,000 from the Carnegie Corporation of New York, and second from other gifts from various sources, mostly made for the specific support of particular undertakings. These include the Rockefeller Founda-

tion, General Education Board, International Education Board, Laura Spelman Rockefeller Memorial, Commonwealth Fund, and various individuals and industrial concerns. The Council maintains two regular series of publications, one called *Bulletins*, of which 55 had been issued up to the end of 1926; and the other called *Reprint and Circular Series*, of which 71 had appeared. It publishes, in addition, miscellaneous publications and its *Annual Report*.

The general administrative officers of the Council in 1926 were: chairman, Gano Dunn; first vice-chairman, A. A. Michelson; second vice-chairman, Charles D. Walcott; third vice-chairman, R. A. Millikan; fourth vice-chairman, John C. Merriam; treasurer, George K. Burgess; permanent secretary, Vernon Kellogg. George E. Hale of the Mount Wilson Observatory, Pasadena, Cal., was honorary chairman. Headquarters of the Council are on B Street, between 21st and 22d Streets, Washington, D. C.

**RESERVE OFFICERS.** RESERVE OFFICERS TRAINING CORPS. See MILITARY PROGRESS, under *United States*.

**RESSLER, EDWIN DE VORE.** American educator, dean of the school of vocational training, Oregon State College, died October 17. He was born Nov. 2, 1869, at Westerville, Ohio. He took his B.A. degree at Otterbein University, Westerville, in 1891, and his M.A. at Ohio State University in 1897. He taught for five years in Ohio, and spent four years as inspector of schools at Westerville. From 1897 to 1901 he was superintendent of schools at Eugene, Ore., and he became assistant professor of education at the University of Oregon in 1901. From 1902 to 1909 he was president of the Oregon Normal School, Monmouth, and in 1909 he was appointed professor and head of the department of education, at Oregon Agricultural College. In 1918 he was made dean of the school of vocational education in Oregon State College, which post he held till his death.

**RÉUNION, rā'u'nyōn'.** An island belonging to France, about 420 miles east of Madagascar. Area, 970 square miles: population, according to the census of 1921, 172,190, of whom 167,947 were Europeans, mainly of French origin. The chief towns with their population in 1921 were: St. Pierre, 27,895; St. Denis, 21,538; St. Paul, 19,456; and St. Louis 14,803. The chief port is Pointe-des-Galets. The principal products are rum, sugar, manioc, coffee, tapioca, vanilla, spices, etc. The production of rum in 1924 was 1,043,963 gallons, the greater part of which was exported. The exports in 1924 amounted to 150,000,000 francs and the imports to 104,000,000 francs. The chief exports were sugar and rum, and the chief imports rice and grain. In 1924, 107 vessels entered and 108 vessels cleared the ports of the island. There are about 80 miles of railways. The budget for 1924 balanced at 22,715,023 francs, and the debt on Jan. 1, 1925, was 566,500 francs. The government of the island is administered by a governor, aided by a privy council and an elected council-general. Réunion is represented in the French parliament by one senator and two deputies.

**REVOLUTION, AMERICAN.** See CELEBRATIONS.

**RHEAD, LOUIS.** American artist and angler, died July 29, at Amityville, N. Y. He was born at Etruria, England, in 1857, and received his education at the South Kensington School, Lon-

don. His father, George Wolliscroft Rhead, was also a well-known artist. With his brother Frederick, Louis Rhead came to the United States in 1883, to become art manager for D. Appleton & Co., and in a short time the brothers achieved fame as book and magazine illustrators. Much of their work appeared under the name "The Brothers Rhead." Louis Rhead exhibited his oil and water color paintings in American and European galleries. He was awarded a gold medal in Boston in 1895 for his artistic posters, and another gold medal at the St. Louis Exposition in 1904. Mr. Rhead wrote much on hand-made lures and flies for fishing. He wrote a book on Robin Hood himself and supplied the illustrations.

**RHODE ISLAND. POPULATION.** According to a State census made in 1925, the population was 679,260, as compared with 604,397 at the United States Fourteenth Census in 1920, and 595,986 at the census of 1915. The estimated population on July 1, 1926, was 693,000. The capital is Providence.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926.

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	45,000	58,000 *	\$1,450,000
	1925	46,000	59,000 *	1,386,000
Corn	1926	9,000	432,000	497,000
	1925	9,000	405,000	486,000
Potatoes	1926	3,000	450,000	810,000
	1925	2,000	280,000	686,000

\* tons.

**MINERAL PRODUCTION.** The State produced in 1924, 171,350 short tons of stone, and 161,080 short tons in 1923; in value, \$742,701 in 1924 and in 1923, \$649,359. Clay products, lime, sand and gravel were also produced in commercial quantities. The total value of the State's mineral products in 1924 was \$1,132,641; in 1923, \$1,022,528.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for maintenance and operation of the general departments of the State in the fiscal year ending Nov. 30, 1925, were \$5,939,108. Their rate per capita was \$8.72, as against \$8.82 in 1924 and \$5.71 in 1917. Their total included \$425,643 for education, apportioned among minor civil divisions. Payments amounting to \$493,535 for interest on debt and \$2,993,368 for permanent improvements, added to payments for maintenance and operation of State departments, made the year's total of State payments \$9,426,011. For highways was expended the sum of \$2,641,469, of which \$737,461 was for maintenance and \$1,904,008 for construction.

Revenue receipts of the State were \$8,981,305, or \$13.19 per capita. They exceeded by \$2,548,662 the total payments except for permanent improvements, and were \$444,706 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 48.8 per cent of the revenue in 1925, as against 52.7 per cent in 1924, and 62 per cent in 1917. Their per capita rate was \$6.44 in 1925, \$6.40 in 1924 and \$4.70 in 1917. Earnings of the departments and compensation for officials' services furnished 6.5 per cent of the 1925 revenue; business and non-business licen-

ses, 33.9 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles. The net indebtedness of the State on Nov. 30, 1925, was \$10,372,152, or \$15.23 per capita, as against \$15.41 in 1924 and \$10.94 in 1917. The assessed valuation of property subject to State tax was \$1,185,720,116. The State tax levy was \$1,422,864, or \$2.09 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 196. No new construction in 1926 and no abandonment of moment were reported.

**EDUCATION.** The voters of the State, in a popular referendum, authorized bond issues to a total of \$1,200,000 for educational outlays. With the proceeds were to be erected additional buildings at the Rhode Island College of Education and at Rhode Island State College. There were established pensions for teachers, at the expense of the State exclusively. These range from a minimum of \$500 to a maximum of \$700, according to W. E. Ranger, State commissioner of education. A law went into effect making it possible to proceed against habitual truants and pupils habitually misconducting themselves, as wayward minors. Those between the ages of 16 and 18 who frequented poolrooms, drinking places, houses of ill repute or gambling houses were made amenable to prosecution for misdemeanor.

**CHARITIES AND CORRECTIONS.** The State Public Welfare Commission established in 1923 has supervision of the penal and charitable public activities. The following institutions with their population according to the November, 1926, census report, are under its supervision: State Hospital for Mental Diseases, 1742 patients; State Infirmary, 673 patients; State Prison and Providence County Jail, 516 inmates; Reformatory for Women, 136 inmates; Sockanosset School for Boys, 178 inmates; Oaklawn School for Girls, 56 inmates; Exeter School (for feeble-minded), 430 inmates; and Home and School (for dependent and neglected children), 250 inmates. The Children's Bureau supervised 406 children in free homes, and 464 in paid homes. The Mothers' Aid Department aided 325 families and 1093 individuals. The State Probation Department and the Psychological Division also are under the supervision of the State Public Welfare Commission. The latter division was established during the year, while the State Probation Department was reorganized. The Children's Bureau also was established in 1926. At the election in 1926 approval was voted of a bond issue to the amount of \$1,000,000 for general improvements and new buildings at the State institutions.

**LEGISLATION.** The State legislature met in regular annual session in January. It enacted statutes for the control of school children and minors; see *Education*, above. Extensive amendments were also made in the laws on juvenile courts and on the care of delinquent and wayward children. Resolutions to amend the State constitution were passed as follows: To alter the State senate apportionment in favor of the city of Providence; to provide biennial registration, in harmony with the existing system of biennial elections for State offices; to abolish property qualifications for voters in the cities of the State alone, and not in the towns. These resolutions, having had their first passage in

1926, awaited repassage in 1927 and subsequent submission to popular vote in 1928.

**POLITICAL AND OTHER EVENTS.** Governor Aram J. Pothier, running on the Republican ticket, was reelected November 2, for the two-year term beginning January, 1927. He defeated the Democratic candidate, Joseph H. Gainer, by approximately 13,000 votes. All three seats of the State's delegation to the United States House of Representatives for the 70th Congress were gained by Republicans. Other State officers elected in November, to take office in January, 1927, were lieutenant-governor, Norman S. Case, and treasurer, George C. Clark.

Rioting incidental to a textile strike rendered it necessary to employ State troopers at Manville August 31. The State Republican convention held October 13 adopted the proposal to resubmit the alcoholic prohibition issue to the people of the United States. In the city of Providence the construction of a 25 story business building, to be the highest in the city, was begun. This structure was to be known as the Industrial Trust Company Building, and was to reach completion in 1928.

**OFFICERS.** Governor, Aram J. Pothier; Lieutenant-Governor, Nathaniel W. Smith; Secretary of State, Ernest L. Sprague; Treasurer, Richard W. Jennings; Auditor, Philip H. Wilbour; Attorney-General, Charles P. Sisson.

**JUDICIARY.** Supreme Court: Chief Justice, William H. Sweetland; Associate Justices: Walter B. Vincent, Charles F. Stearns, Elmer J. Rathbun, John W. Sweeney.

**RHODESIA**, rō-dé-zhī-ā or -zī-ā. The name given to a stretch of British territory in Central Africa, extending northward from the Transvaal to the borders of the Belgian Congo and Tanganyika Territory; constituting a British protectorate; bounded on the east by Portuguese East Africa, Nyasaland, and the Tanganyika Territory, and on the west by the Belgian Congo, Portuguese West Africa and Bechuanaland. It is divided into Northern Rhodesia and Southern Rhodesia by the Zambesi River; Southern Rhodesia comprises Matabeleland and Mashonaland.

**NORTHERN RHODESIA.** In 1911 this region was formed from the former provinces of Northeast and Northwest Rhodesia. Area, 291,000 square miles; the native population on Mar. 31, 1925, was 1,106,534. The seat of government is Livingstone, on the Zambesi. The chief crops are corn, cotton, wheat, tobacco, fruits, and rubber, and the minerals include gold, copper, zinc, and lead. The total value of all mineral production in 1924 was £3,330,391, of which the production of lead supplied £214,445. Imports in 1924 amounted to £684,183; exports, £455,917. The chief exports are live animals, lead, copper, corn, flour, hides and skins, and tobacco. The administration consists of a governor and executive council and a legislative council, partly official and partly elected, the official members having the majority. Governor after Apr. 1, 1924, when the British South Africa Company was relieved of the administration, Sir Herbert J. Stanley.

**SOUTHERN RHODESIA.** The area of this section of Rhodesia is estimated at 149,000 square miles and the population, according to the census of 1921, 33,620 Europeans and 770,000 natives. Capital, Salisbury. At the end of 1924 the schools numbered 91, of which 8 were secondary, with an enrollment of 6596 Europeans; and 1216 schools for natives with a total enrollment of

77,610 pupils. The agricultural resources are rich, and stock raising is important. The crops include grain, tobacco, wheat, and peanuts, and there is an expanding production of many varieties of fruit. The total output of minerals in 1924 was valued at £4,478,499 as compared with £4,300,052 for 1923. Gold was the leading mineral as usual, the production being 627,729 ounces, valued at £2,939,562. Other minerals produced were silver, chrome, asbestos, mica, arsenic, wolframite, antimony, scheelite, and diamonds. The imports in 1924 were valued at £4,054,502 and the exports, £5,564,716. The chief imports are foodstuffs, textiles and machinery; the chief exports, minerals, tobacco, and grain. The revenue for 1924 was £1,521,881 and the expenditure, £1,594,137. Executive power is vested in a governor aided by an executive council; legislative power is an elected legislative assembly. Governor and Commander-in-Chief at the beginning of the year, Lieut.-Col. Sir John R. Chancellor; Prime Minister and Secretary for Native Affairs, Sir C. P. J. Coghlan.

The railways serving this colony aggregate 2462 miles, of which 1252 are within Southern Rhodesia. All the lines are controlled and operated by the British South Africa Co., except one stretch operated by the South African Government Railways and part of the main line north to Bukama, located in Belgian territory. Their coast connections are mainly eastward to the Beira Railway and the port of Beira in Portuguese East Africa, but there is also connection with the South African Railway to other ports at greater distances. In October the *Railway Age* reported that a railway commission composed of three members and a chairman—one member from Northern Rhodesia, one from the Bechuanaland Protectorate, and one from Southern Rhodesia, the chairman to be appointed by the three governments jointly—would regulate the railways under a new agreement made between the Colonial Office, the British South Africa Company, and the Rhodesian government, in order that the roads may be administered as a single system. Each of the Governments concerned, under the agreement, was to take steps to pass legislation providing that all railway charges shall be subject to the approval of the commission, and also that such charges shall be so fixed that the annual net revenue of the railway, together with the other sources of revenue of the railway company, will, in the view of the commission, yield the amount to provide for interest on present debentures, loans, and such fixed charges as may be agreed upon; for such allowances as shall be necessary adequately to remunerate any additional capital required; for a sum of £150,000 to be available for distribution to shareholders and to be known as a dividend provision; and for a sum of £350,000 to be put in reserve until it has accumulated to the amount of £1,000,000, when the sum to be budgeted shall be reduced to £150,000 annually until the accumulation has reached £1,500,000, when the provision with regard to this item shall cease. Under the agreement it was determined that in any year when the income shall exceed the amount required, 10 per cent of the excess shall be available for dividends. In any year in which the railway income shall be less than the amount required, the deficiency shall be apportioned between the sum available for distribution to shareholders and the sum to be put in

reserve, in the proportion which the dividend provision bears to the reserve provision for that year. The year commencing Oct. 1, 1927, shall be the first, it was decided, in which the new railway commission shall become operative. The governments have agreed upon a policy to bring into force a general code of railway legislation providing for public safety, methods of operation, railway facilities and accommodations.

**RICE.** Production estimates received by the International Institute of Agriculture, Rome, from eight important rice-growing countries, not including India and China (which produce the bulk of the world's crop), showed the yield of 1926 for these countries to be 8.6 per cent above the average yield and 6.3 per cent above the yield of 1925. These estimates indicated a yield of rough rice of 527,054,500 bushels for Japan, 275,047,600 for Java and Madura, 138,188,000 for Korea and 32,040,000 for Italy. China is roughly estimated to produce between one-fourth and one-third of the world crop. India, considered as ranking next to China in rice production, reported a crop of 2,327,061,700 bushels for 1925. Spain, ranking next to Italy in rice production in Europe, has an annual crop of nearly 15,000,000 bushels. In South America, Argentina, for the years 1920 to 1924 inclusive, produced an average yield of 38,652,700 bushels and Brazil 465,900. Estimates published by the Department of Agriculture placed the production of the United States in 1926 at 41,006,000 bushels, the area at 1,018,000 acres and the average yield at 40.3 bushels per acre as compared with 33,309,000 bushels, 887,000 acres and 37.5 bushels per acre in 1925.

The average farm price Dec. 1, 1926, was only \$1.097 per bushel, while the corresponding price the year before was \$1.538. On this basis, the total value of the 1926 and 1925 crops was \$44,988,000 and \$51,232,000, respectively. The production by States in 1926 was as follows: Louisiana 16,088,000 bushels; Arkansas, 10,017,000; California, 7,986,000; Texas, 6,142,000; Missouri, 610,000; South Carolina, 85,000; Georgia, 60,000; and Mississippi, 18,000. Missouri produced 50,000 bushels in 1924 and 300,000 in 1925, while the acreage increased from 1000 acres in 1924 to 10,000 acres in 1926. In the year ended June 30, 1926, according to preliminary reports, the United States exported 27,588,000 pounds of cleaned rice and 20,587,000 pounds of rice flour, rice meal and broken rice, as against 74,602,000 pounds and 37,435,000 pounds, respectively, for the preceding fiscal year. The exports of rice and rice products from the United States have shown a marked decline during the past few years. For the two years ended June 30, 1925, the average annual exports to foreign countries were only 169,892,000 pounds, as compared with 190,995,000 for the two years ended June 30, 1923. Porto Rico and Hawaii are the most important single purchasers of rice in the United States, but their purchases are not included in the export figures given above.

During 1925 and 1926, the United Kingdom, Argentina, Chile, Honduras and Cuba were among the best foreign buyers of rice in the United States. During the year ended June 30, 1926, the imports of cleaned rice amounted to 92,029,000 pounds, of uncleaned rice to 30,749,000, and of rice meal and broken rice to 6,588,000. Most of the cleaned rice was imported from China and the uncleaned rice from Japan. Dur-

ing the year rice-grading schools were conducted in the principal rice centres of Arkansas and Louisiana. Bert Edwards, of Lewiston, Ill., was reported to have grown 135 acres of rice yielding 65 bushels per acre, and this was considered the first time rice had been grown commercially so far north.

**RICE INSTITUTE.** An institution of higher education at Houston, Texas; opened in 1912. The enrollment for the autumn of 1926 was 1296 and the faculty numbered 80. The plant, equipment, and productive funds of the institution were estimated at \$14,000,000, and the income from endowment for the fiscal year 1925-26 was in excess of \$600,000. The library contained approximately 50,000 volumes. President, Edgar Odell Lovett, Ph.D., LL.D.

**RICH, JOHN T.** Former Governor of Michigan, died March 28. He was born at Conneautville, Pa., Apr. 23, 1841. In 1848 his family removed to Michigan, and he received his education in public schools. He was a farmer from boyhood. In 1873 he was elected a member of the Michigan House of Representatives, holding his seat till 1880. In the last four years of this period he was speaker of the house. He was a member of the State senate in 1880-81, and a member of the 47th U. S. Congress, 1881-1883. From 1887 to 1891 he was commissioner of railroads for Michigan, and from 1893 to 1896 he was Governor. From 1898 to 1906 he was collector of customs for the port of Detroit, and from 1909 to 1913 held the same office for Port Huron, Mich.

**RICHEPIN, JEAN.** French author and Academician, died in Paris, December 12. He was born at Medea, Algeria, in 1849, while his father was serving there with the French Army. He was educated at the Lycée Napoléon, Paris, from which institution he was dismissed on account of a youthful escapade. Thereafter he led a spectacular life, which soon turned into literary channels. His first published verses, *La Chanson des Gueux*, so scandalized the world of his time that he was sentenced to four months in prison for their perpetration. At the same time, the success of his work was so instant and complete that he was seen as a writer to be reckoned with, and on his exit from prison he faced the future as one determined to say and publish what he willed. For twenty years from this time he wrote voluminously, achieving his greatest successes in poetry and the drama. Many of his plays were first produced by Sarah Bernhardt. He was a truculent poet, full of new ideas ("blasphemies" they were called by some), and a firm upholder of the romantic tradition. Throughout his early years, after his dismissal from school, he roamed southern Europe, earning a precarious living as teacher of languages, sailor, longshoreman or even porter. Returning to Paris, he settled in the Quartier Latin, where he took as his associates Raoul Ponchon and Paul Bourget, who were then beginning to attract attention as literary lions. The height of his fame was reached in 1897, with his *Le Chemineau*, which was immediately put into the repertory of the State Theatre. There is more than justification for the belief that in this play Richepin has put a great deal of autobiography, and it is so compelling a piece of work that, under one title or another, it has appeared in most European countries, and as *The Harvester* was put on throughout the United States. He

was a member of the French Academy, and an officer of the Legion of Honor. His death was a direct result of exposure at an advanced age while he was watching the filming of one of his plays.

**RICKETS.** Infantile rickets usually begins during the first four months of life, and for some years the idea of the possibility of preventing it by prenatal treatment has been entertained; but the earliest experiments in this direction, in which mothers were placed on cod-liver oil and antirachitic diet, gave negative results. A group of Cincinnati physicians, Greenebaum, Selkirk, Otis, and Mitchell, reported their experience, in the *Journal of the American Medical Association* for Dec. 11, 1926. The experiment individuals were 25 pregnant mothers who had previously given birth to rachitic infants, and the actual experimental period was the last three months of pregnancy, although the women had been under observation before this interval. The food, which was supplied free of cost, consisted of vegetables, cereals, fruit, eggs, and milk, and was intended chiefly to supplement the ordinary house diet which the mothers chose at pleasure. The calorific requirement was placed at 2500 daily, with the equivalent of a certain amount of lime, phosphorus, and iron. The unfortified diet of the women before the experiment fell short of both calory and mineral requirement. The result of the test was that even under ideal conditions rickets could not be wholly prevented but, judging from the röntgenograms of the bones of the infants, there was a notable decrease in the ordinary expectation of the disease. See FOOD AND NUTRITION.

**RIDGEWAY, SIR WILLIAM.** British archaeologist, died August 12. He was born in Ireland on Aug. 6, 1853, and was educated at Portarlinton School and Trinity College, Dublin. He then gained the degrees of M.A. and Sc.D., at Cambridge, and in 1880 became a fellow of Caius College. From 1883 to 1894 he was professor of Greek at Queen's College, Cork, Ireland. In 1892 he was appointed professor of archaeology in the University of Cambridge, which chair he held continuously until his death. In 1907 he was made Brereton Reader in Classics at Cambridge. He was president of the Royal Anthropological Institute of Great Britain and Ireland from 1908 to 1910. From 1900 to 1904 he was a member of the council of Cambridge Senate, and he was president of the Classical Association of England and Wales in 1914. He was a fellow of the Society of British Antiquaries, and a fellow of the Zoölogical Society. He was knighted in 1919 for his services to science. He wrote much, including *The Oldest Irish Epic*, 1907, and *The Origin of Tragedy*, 1910.

**ROADS AND PAVEMENTS.** Rural roads in the United States increased in mileage between 1904 and 1925 from 2,151,379 to 3,001,825 miles, according to figures compiled by *Engineering News-Record* (Jan. 3, 1927) from reports and estimates submitted by the several states to the United States Bureau of Public Roads. For the same period the number of miles surfaced increased from 153,350 to 521,915. The increase in total mileage was nearly 40 per cent, and in total mileage surfaced nearly 50 per cent, but the percentages of miles surfaced to total mileage was 7.1 in 1904 against 17.4 in 1925. It should be noted that "surfaced" means any improvement of the original dirt road by the addition of a



higher grade of material, from mere gravel to the latest improved types of paving material on a concrete base.

**FEDERAL-AID ROADS.** Figures like the above for the full year 1926 are not available, but the United States Bureau of Public Roads reports that on June 30, 1926, there had been completed in the Federal-aid system 55,903 miles of roads, while at that time construction was in progress on 10,962 miles and approval had been given to 2470 additional. The three items total 69,335 miles, out of a total of 182,135 miles selected a few years ago to comprise the Federal-aid highway system designed to link the country together. The official report points out that individual states have improved or initiated improvements to such an extent that nearly three-fourths of the mileage of the system has been or is being improved. The word "improved" as here used means even less than "surfaced" where used above. Of the 56,000 miles of completed Federal-aid roads, some 10,000 miles are as yet unsurfaced; that is, merely graded and drained. (For details by states see the annual report of the U. S. Bureau of Public Roads.) One transcontinental Federal-aid highway (Washington, D. C., through St. Louis, Texarkana and El Paso to San Diego) is 97 per cent "improved," with 2907 of its 3133 miles surfaced and 131 miles graded and drained, leaving only 95 miles without improvement. Ten years ago, when the Federal-aid plan was adopted, only five states had each a single improved trans-state highway (Massachusetts, Connecticut, New York, New Jersey, Maryland). To-day 25 states each have such highway in at least one direction, and 16 of these have them in two directions.

**SNOW REMOVAL** was being rapidly extended. It was estimated that in the 36 "snow states" 93,000 miles of highways would be kept clear of snow in the winter of 1926-27 at a cost of \$4,000,000, and by the use of 3500 snow plows and 5500 tractors.

**CITY PAVEMENTS.** Neither the U. S. Bureau of Public Roads nor the various state highway boards have jurisdiction over city streets, and there exist no central agencies for collecting city pavement statistics. Many of the improved rural highways have as heavy traffic as most city streets and are provided with at least as serviceable and costly pavement.

**FINANCING.** Federal-aid contributions to highway improvements, which now total about \$500,000,000, have been provided out of general income. A large part of the more than equal sum for Federal-aid roads contributed by the states has come from bond issues, as has also the cost of the independent highway work done by the States. The Bureau of Public Roads, in its report for 1925-26, gives a table showing for each state what amount is required to match its part of the yearly \$75,000,000 total of Federal-aid money, and also the gross revenue of each state from motor-vehicle license fees and gasoline taxes for the calendar year 1925. After deductions for states not on a 50-50 basis because of public lands and non-taxable Indian lands, the state funds required to match Federal-aid total \$67,082,000, while the motor and gasoline taxes total \$405,468,000. Massachusetts, New York, New Jersey, and Illinois are the only four states that do not tax gasoline. Twenty-four states had issued no highway bonds since Federal-aid was started. The other 24 had incurred

\$604,411,000 indebtedness in that period, 13 considerably in excess of their contributions to obtain Federal aid. The cost of city pavements is met in large part by assessments on the real estate benefited, in part by taxation and, in some cases, largely by bond issues, the latter often being made to finance the improvements at the outset, even where assessment benefits are levied. See AGRICULTURE, U. S. DEPARTMENT OF.

A notable court decision bearing on the legality of assessing the entire cost of street paving on abutting property, on a straight pro rata front-door basis, was rendered by the Court of Appeals for the District of Columbia in December, 1926 (William G. Johnson et al. vs. Commissioners of the District of Columbia; printed in full in *United States Daily*, Dec. 15 and 16, 1926). The general effect of the decision is to restrict to narrow limits the use of the unqualified front-foot assessment basis, leaving it applicable only where lot depths and values per front foot are substantially equal, and holding further that, in a case like the one at bar, where the street repaved was a main thoroughfare, the cost could not be legally assessed as a local benefit.

**ROANOKE ISLAND CELEBRATION.** See CELEBRATIONS.

**ROCHESTER, UNIVERSITY OF.** A co-educational, nonsectarian institution of higher education at Rochester, N. Y.; founded in 1850. It consists of three schools: the College of Arts and Sciences, composed of a college for men and a college for women; the Eastman School of Music; and the School of Medicine and Dentistry. A school of nursing is maintained in conjunction with the Strong Memorial Hospital, the property of the University. The enrollment for the fall session of 1926, exclusive of extension division and special music students, totaled 1363, distributed as follows: arts and sciences, 897, of whom 468 were men and 429 women; bachelor of music course, 275; certificate of music course, 58; home economics, 42; medicine and dentistry, 52; nursing, 39. For the summer session 678 students were enrolled. There were 954 in the extension division. The faculty had 288 members, as follows: college of arts and sciences, 103, thirty of whom were new appointments; school of music, 83; school of medicine and dentistry, 102, fifty-seven of whom were on full time. The productive funds as of June 30, 1926, were \$25,708,000, and the total resources, including land, buildings, equipment, and endowment, were approximately \$41,380,000. The main libraries contained over 125,000 volumes, the Eastman library over 14,000, and school of medicine library over 30,000. During the year a third unit of the Eastman School of Music Dormitory was erected, providing accommodation for 87 additional students. An addition to the Memorial Art Gallery was completed which more than doubled the capacity of the original building and provided greater exhibition facilities, library quarters, classrooms, offices, and a little theatre. A twelve-story building was under construction to provide additional practice rooms for the School of Music. President, Rush Rhees, D.D., LL.D.

**ROCKEFELLER FOUNDATION.** An institution chartered in 1913 "to promote the well-being of mankind throughout the world." Its work is carried on through its four departmental agencies: the International Health Board; the



China Medical Board; the Division of Medical Education; and the Division of Studies.

The International Health Board during the year 1926 took part in yellow fever, hookworm, and general health surveys, in campaigns for the control of these diseases, in field studies in them, in county and district health work, and in the development of public health laboratory service and other divisions of public health departments. It contributed to schools of hygiene and public health and provided fellowships for training in public health for over 230 men and women of thirty-one different countries. Co-operating with the Health Section of the League of Nations, it contributed funds toward the support of international interchanges of public health personnel and the improvement of services of epidemiological and public health intelligence. Assistance was given in an outbreak of yellow fever in Brazil, and a commission was maintained in West Africa for investigating its prevalence. Yellow fever surveys were made in Mexico, Salvador, Guatemala, and Honduras. The Board contributed to the development of central administration bureaus of eight states where malaria is a problem, and aided the budgets of twenty-six county health units which stress malaria control as a major activity. Coöperation in this field was also given in Porto Rico, Argentina, Brazil, Italy, Spain, Palestine, and the Philippine Islands. The governments of fifteen countries were assisted in programmes for the control of hookworm disease. The services of the director of the Board's work in Siam and the Straits Settlements were lent to the government of Sarawak, Borneo, for a hookworm survey of that protectorate.

Twenty-four states of the United States were aided in the development of local health service, and on Dec. 31, 1926, there were 331 full-time county health units in operation, toward the budgets of 116 of which the Board contributed. Assistance was given toward the establishment of 19 county health units in Porto Rico (its first units), Quebec, and Brazil. In France coöperation was given in public health work in the departments of Hérault, Seine-et-Marne, and Saône-et-Loire; in the district of Hartberg in Austria two health centres were established; a preliminary survey was carried out in the district of Gödöllő, Hungary; coöperative public health demonstrations were conducted in three districts of Poland; and aid was given to public health laboratory service in the States of Alabama, Maine, Missouri, Oregon, South Carolina, Tennessee, Texas, Utah, and Virginia, and in Costa Rica, Nicaragua, Guatemala, Colombia, and China. The States of Alabama, Kansas, Kentucky, Louisiana, Mississippi, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, and Virginia were assisted in expanding their epidemiological services. Coöperation in the development of bureaus of vital statistics was given in Alabama, Arkansas, Iowa, Mississippi, Montana, Oklahoma, and Tennessee, and in Denmark. The government of Venezuela was assisted in organizing a division of sanitary engineering in the National Department of Health; and Alabama, Idaho, Iowa, Maine, Oregon, and Tennessee, and Honduras and Nicaragua were aided in improving their sanitary engineering services. Aid to public health nursing service was continued in Brazil, where a division of nursing education and a division of public health nursing

were being developed in the National Department of Health, and in France, where a Central Bureau of Nurses was being established in the Ministry of Labor, Hygiene, and Social Welfare. Aid to bureaus for the study and reform of public health administration was continued in Czechoslovakia, France, Hungary, and Poland. The following schools of hygiene received aid: the Harvard School of Public Health; the School of Hygiene and Public Health of the University of Toronto; State Institute of Public Health, Prague, Czechoslovakia; School of Hygiene of the State Institute of Hygiene, Warsaw, Poland; London School of Hygiene and Tropical Medicine; Institute of Hygiene, São Paulo, Brazil; Institute of Hygiene, Budapest, Hungary; School of Public Health, Zagreb, Jugoslavia; Institute of Public Health, Oslo, Norway; State Serum Institute, Copenhagen, Denmark; and the Central Epidemiological Institute, Belgrade, Jugoslavia.

The programme of the China Medical Board included the maintenance of the Peking Union Medical College, aid to medical and premedical education in certain other universities and colleges of China, and the provision of fellowships for advancing the training of teachers of medicine, the fundamental sciences, and nursing. At the Peking Union Medical College, undergraduate and graduate training in medicine are provided and a school of nursing is maintained. During the year 1925-26 the medical school had an enrollment of 64 undergraduate students and 82 graduate students, and the nurses' training school an enrollment of 23 undergraduate and 12 graduate students. The teaching staff of the medical school numbered 82, of whom 43 were Chinese. Throughout the year 1926 the medical school assisted the Metropolitan Police Department of Peking in maintaining a public health demonstration centre in the city. The Board made a special contribution toward field studies in kala-azar conducted by the Department of Medicine. Aid to medical education was given in Shantung Christian University and Hsiangya Medical College, and contributions toward the development of the premedical sciences were given to St. John's University, Shantung Christian University, Southeastern University, University of Nanking, Soochow University, Nankai University, Gingling College, Canton Christian College, and Shanghai College. An appropriation was made toward the expenses of a summer institute for science teachers held at Tsinghua College, Peking. Funds were contributed to 17 mission hospitals and to the China Medical Association.

The function of the Division of Medical Education is the study of present-day needs in medical education and, where conditions warrant, co-operation with medical schools in the development of programmes for improving their facilities. During 1926 representatives of the Division visited 21 countries, namely, Austria, Bolivia, Ceylon, China, England, France, Germany, Haiti, Hungary, India, Italy, Japan, Paraguay, Peru, the Philippine Islands, Rumania, Scotland, Siam, the Straits Settlements, Uruguay, and Jugoslavia, for initial study of the status of medical education or in connection with programmes either under consideration or already in force. Assistance in the form of contributions was given to the following 14 institutions: the medical schools of the American University of Beirut, the University of Brussels, the University of

Cambridge, Columbia University (in conjunction with the General Education Board), Chulalongkorn University (Siam), University of Edinburgh, Iowa State University (in conjunction with the General Education Board), the University of Montreal, the University of Oxford, and the University of Strasbourg; the Faculty of Medicine of São Paulo, Brazil; the Institute of Psychiatry of Munich; St. Thomas's Hospital, London; and the New York Academy of Medicine. Grants were also made to a special commission of the Association of American Medical Colleges toward the expenses of a study of the medical curriculum in America, and to the American Medical Association to meet one-half the deficit involved in publishing and distributing the Spanish edition of the *Journal of the American Medical Association*.

A programme of emergency aid, consisting of the provision of scientific literature, laboratory supplies, and resident fellowships, carried out by the Division since 1920 in countries of Europe in which, on account of low exchange and other adverse post-war economic conditions, medical teaching and research had been severely handicapped, was gradually being curtailed. Aid to medical education, in the form of small grants made each year for a series of years to important medical school departments, to be used for apparatus, books, fellowship stipends, expenses of research, or in any other way that may increase the efficiency of the departments for training graduate students as teachers or investigators in medical sciences, was given in certain countries in which, because of economic conditions, the fundamental programme of capital for constructive aid could not be applied. Such aid was given in 1926 to the department of parasitology of the University of Paris and to eleven medical institutes of Italy. The Division grants fellowships to young medical scientists for study in their own or in foreign countries in preparation for teaching positions guaranteed to them in their own countries and to which they pledge themselves to return at the termination of their studies.

To further the interchange of medical students between Great Britain and the United States, the Division coöperates with the British Medical Research Council, which selects promising British medical scientists for work in the United States. It also contributes, in conjunction with the General Education Board, toward the expenses of the Medical Fellowship Board of the National Research Council in Washington, D. C. Study visits under the supervision of the Division in connection with undertakings in which it is especially interested were arranged for representatives from the University of Edinburgh, the University of Lyons, and the faculty of medicine of São Paulo. During the year the Division issued vols. iv and v of its series *Methods and Problems of Medical Education*. Volume iv is devoted to a description of the system of recording, filing, and storing clinical histories, employed at the Presbyterian Hospital, New York; volume v contains twenty-two articles describing teaching and research departments in twelve medical centres of North America, China, France, and the Netherlands.

During 1926 the efforts of the Division of Studies, created in 1924 to investigate work that the Foundation might wish to undertake from time to time and to administer work not within

the province of the existing Foundation boards, were centred mainly on the development of its programme in the biological sciences and on nursing education. It also continued coöperation in hospital and dispensary studies. Funds were granted during the year to the Institute of Biological Research of the Johns Hopkins University for studies of the possible extension of the human life span; to the Institute of Psychology of Yale University for psychological and biological research on anthropoids; to the State University of Iowa for studies in brain physiology; to the Marine Biological Station maintained by Stanford University at Pacific Grove, Calif., for the erection of a new laboratory; to the National Committee for Mental Hygiene in the United States, and to a committee of the same name in Canada, for studies and demonstrations; to the International Biological Abstracting Service for publication expenses; and to the National Research Council for the support of fellowships in the sciences of human biology and in physics, chemistry, and mathematics. Sums were also made available for fellowships in human biology administered directly by the Foundation.

Early in the year a survey of the status of the biological sciences in the countries of the Pacific, made by Professor Clark Wissler of Yale University, Professor E. G. Conklin of Princeton University, and Dr. Richard M. Pearce, the Director of the Division, was completed. Funds were provided to enable scientists from Australia and Japan, distinguished in the fields of biology or anthropology, to visit the United States for study of laboratory administration and discussion of problems of human biology with American investigators.

The year's programme in nursing education included aid to nurse training courses at the following institutions in the United States: Yale University, Vanderbilt University, the George Peabody College for Teachers, and the D. Ogden Mills Training School for Nurses at Saranac Lake, N. Y.; to important government or university schools of nursing in Paris and Lyons, France, in Cracow, Poland, and in Belgrade and Zagreb, Jugoslavia; and to the Nurse Training School of Siriraj Hospital, Siam. Members of the Division made surveys of nurse training schools in the United States and in Europe; a study of maternal care in England was completed; fellowships were provided for the further training of administrators and teachers in schools of nursing, and funds were made available to enable leaders in nursing to visit important training centres in Europe and the United States.

The activities of the Foundation and its departments are described in the annual reports which include: *The President's Review*, a brief illustrated résumé of the year's work, published in English and French; the *Report of the International Health Board*, published in English and Spanish; the *Report of the China Medical Board*; and the complete *Annual Report of the Foundation*. Its principal funds in 1926 amounted to \$165,204,624, of which both the income and the principal are available for appropriations. Its resources and policies are controlled by a self-perpetuating board of unsalaried trustees. The executive officers in 1926 were: John D. Rockefeller, Jr. chairman of the board of trustees; George E. Vincent, president; Frederick F. Russell, M.D., general director, International Health Board; Roger S. Greene, general director, China

Medical Board; Richard M. Pearce, M.D., director, Division of Medical Education; Edwin R. Embree, director, Division of Studies; Norma S. Thompson, secretary; L. D. Meyers, treasurer. Offices are maintained at 61 Broadway, New York.

**ROCKS.** See GEOLOGY.

**RODGERS, JOHN.** Commander, United States Navy, died at Philadelphia, Pa., August 27, as the result of an airplane accident. He was born at Washington, D. C., Jan. 15, 1881, and had a preparatory education at Lawrenceville, N. J. School, 1896-97. He was graduated from the United States Naval Academy in 1903, becoming an ensign in 1905. He was the second naval aviator to receive a license (1911), and in the World War he was employed in the submarine service and in connection with the North Sea mine barrage. He had also served in the Spanish-American War. In 1920 he became commander and from 1922 to 1925 he was commandant of the naval air station at Pearl Harbor, Hawaii. In 1925 he was appointed assistant chief of the Bureau of Aeronautics, and in the same year he was in charge of the Navy seaplane in the attempted non-stop flight from San Francisco to Hawaii. He was killed when his airplane fell into the Delaware River, on a flight from Washington to Philadelphia.

**ROEBLING, WASHINGTON AUGUSTUS.** American engineer, died at Trenton, N. J., July 21. He was born at Saxonburg, Pa., May 26, 1837, the son of a civil engineer, John A. Roebling, a native of Prussia, who had gained his degree at the Royal Polytechnic School, Berlin. Colonel Roebling, having been graduated from Rensselaer Polytechnic Institute, Troy, N. Y., in 1857, acted as assistant to his father. When the Civil War broke out the younger Roebling was engaged in his first independent work, the Allegheny, Pa., suspension bridge. He enlisted on the day that Fort Sumter was bombarded, joining Co. A of Trenton for three months and later seeing service for a year with the 6th New York Artillery. After this he was appointed to the staff and made daily balloon ascents; it was through one of these trips that he was able to be first with the news that General Lee was moving on Gettysburg. In January, 1865, he resigned his commission and went to Cincinnati to assist his father in the completion of the Cincinnati-Covington bridge. When his father died before completing his survey for the construction of the first Brooklyn suspension bridge, Colonel Roebling undertook to carry the work through. At great personal cost in the matter of health, he supervised every stage of the preparatory work until ordered by his physician, in 1872, to cease his visits to the bridge. Even when away from the actual site of operations, he drew up such minutely accurate specifications and instructions as to show his entire grasp of all the problems involved. When, after surmounting many serious obstacles, he successfully carried out the task in 1883, he had the credit of constructing what was then the longest suspension bridge in the world. He was the first president of John A. Roebling's Sons Co., which was incorporated in 1876. After a time his other activities caused him to relinquish the post but he was recalled as president, a few years prior to his own demise, by the death of his nephew, Karl G. Roebling. He also was an authority on mineralogy.

**ROGERS, HENRY WADE.** American jurist, United States circuit court judge, died August 16, at Pennington, N. J. He was born at Holland Patent, N. Y., Oct. 10, 1853, and was graduated from the University of Michigan in 1874. He was admitted to the bar in 1877 and passed several years in the service of the University of Michigan, as Tappan Professor of Law (1883-1890), dean of the Law School (1885-1890), and lecturer on domestic relations and criminal law, from 1890 to 1891. From 1891 until 1900 he was president of Northwestern University, Evanston, Ill. In 1900-1901 he was called to Yale University as a lecturer in the law school, becoming professor in the latter year. He became dean of the Yale Law School in 1903, and in 1913 he was appointed United States Circuit Judge of the second judicial circuit, with chambers in New York City. While thus serving on the bench, he still maintained his connection with Yale, occupying the chair of jurisprudence until 1921, when he reached the university's retirement age. He was chairman of the world's congress on jurisprudence and law reform at the Columbian Exposition, Chicago, 1893; chairman of the conference on the foreign policy of the United States, Saratoga, N. Y., 1898; a lay delegate from the Methodist Episcopal Church to the General Conference of the Methodist Episcopal Church, South, in 1893; chairman of the Democratic State convention of Connecticut, 1904; chairman of the American Bar Association's section on legal education, 1893; president of the Association of American Law Schools, 1906; chairman of the judiciary committee in the Methodist general conferences, 1908, 1912 and 1916; chairman of the American Bar Association's committee on legal education, 1917; president of the New England States peace congress, 1910; official delegate from Connecticut to the National Conference on Uniform Laws, and to the International Prison Conference, Washington, 1910; President of the Civic Federation of New Haven, 1909-1911. He was the author of many important legal works and co-author of others. He was well known as an authority on legal history, and was a contributor to *The Princeton Review* and many reference works and other publications. He was awarded the honorary degree of Doctor of Laws by Wesleyan University and Northwestern University.

**ROMAN CATHOLIC CHURCH.** The Pope ended the year 1925 by sealing up the Holy Door in St. Peter's until the Jubilee in 1950, and then proclaimed the indulgence that might be gained by the world outside Rome during 1926. His activities during 1926 were numerous and important. From May to October there were nine formal ceremonies of beatification. In March he published an encyclical on missions, in which he exhorted all to join in their support and help secure the training of a native clergy. Another encyclical repudiated Fascist legislation and affirmed his right to freedom. The condition of the Catholics of Mexico gave him great concern, and in April he addressed to their bishops a letter advising patience and abstention from political factional strife. In May an encyclical on the seventh centenary of St. Francis of Assisi praised study of the saint's life and commended the order he founded. The allocution at the December 20 consistory condemned the Fascist idea which "makes state

an end unto itself," and again scored the "inhuman ferocity of the anti-Catholic persecutors in Mexico."

The Vatican relations with Prussia, France, the German Reich, Poland, Jugo-Slavia, Haiti, and Argentina were adjusted to a number of improvements. In France the political movement which centred in the paper *L'Action Française*, was condemned where it touched on doctrinal points. On October 24 the Pope consecrated six native Chinese bishops for the missions there.

**THE CARDINALS.** Six cardinals died during the year: Mercier, archbishop of Malines, January 13; Dalbor, archbishop of Burgos, February 14; Sili, of the Curia, February 27; Cagliero, of the Curia, February 28; and Touchet, bishop of Orléans, September 23. Four new cardinals were created; two at the consistory of June 21, Archbishop Luigi Capotosti and Mgr. Carlo Perosi; and two at the consistory of December 20, Giuseppe Gamba, archbishop of Turin, and Lorenzo Lauri, nuncio to Poland. This brought the membership of the Sacred College up to 67, divided into 37 Italian and 30 non-Italian cardinals.

**THE HIERARCHY.** In August the Pope created the new ecclesiastical province of San Antonio, Tex., with Bishop Arthur Drossaerts of San Antonio as its first archbishop, and the new diocese of Amarillo, Tex., with the Very Rev. Rudolph A. Gerken as the first bishop. The new archdiocese will have as its suffragan sees, in addition to Amarillo, those of Galveston, Corpus Christi, Dallas, and Oklahoma, and extends all over Oklahoma and Texas, except the diocese of El Paso, which is part of the province of Santa Fe. The diocese of Amarillo had a Catholic population of 24,550, 22 priests, 41 churches, and 10 schools, and includes more than 70 counties of the State of Texas. Bishop Edward D. Howard, auxiliary of Davenport, Iowa, was appointed archbishop of Oregon City, April 21; the Rev. Dr. Francis M. Kelly was appointed auxiliary bishop of Winona, Minn., March 21; the Rt. Rev. Mgr. Maurice L. McAuliffe was consecrated auxiliary of Hartford, Conn., May 4; the Rev. Dr. John J. Mitty was named bishop of Salt Lake, May 28; and Bishop Andrew J. Brennan, auxiliary of Scranton, to be bishop of Richmond, Va., in place of Bishop D. J. O'Connell, resigned; Bishop Joseph C. Pinten of Superior, Wis., was transferred to Grand Rapids, Mich., June 28, and July 6 the Rev. Dr. T. H. Reverman of Louisville, Ky., was named bishop of Superior; Bishop Augustin Schinner of Spokane resigned, and the Rev. Dr. Charles White of Grand Rapids, Mich., was appointed December 20 as his successor; Bishop Peter J. Hurth, C. S. C., of Nueva Segovia, Philippines, resigned. The Pope appointed, January 7, Mgr. Edward A. Mooney, the spiritual director of the American College, Rome, titular archbishop of Irenopolis, and sent him as apostolic delegate to India. Bishop George J. Caruana of Porto Rico was made titular archbishop of Sebaste and sent as apostolic delegate to the Antilles and Mexico. Mgr. Moses E. Kiley of Chicago succeeded Archbishop Mooney as spiritual director at the American College.

**DEATHS.** Bishop James J. Davis of Davenport, Iowa, December 2; Bishop Edward P. Allen, Mobile, Ala., October 21; Bishop Michael J. Hoban, Scranton, Pa., November 13; Bishop Joseph S. Glass, Salt Lake City, Utah, Janu-

ary 26; Bishop Edward D. Kelly, Grand Rapids, Mich., March 26; Bishop Frederick Eis (resigned), Marquette, Mich., May 5. Bishop William F. O'Hare, S. J., vicar apostolic of Jamaica, W. I., was drowned October 11; Archbishop John Cieplak, metropolitan of Wilna, Poland, died while on a visit to Passaic, N. J., February 17; Archbishop Paul E. Roy of Quebec, primate of Canada, died February 21; Bishop Raymond M. Rouleau, of Valleyfield, was appointed his successor, July 12.

Porto Rico was divided into two dioceses, the new see of Ponce being created. The apostolic vicarate of Darien, including the territory along the Panama Canal, with a residence at Colon, was organized.

**THE EUCHARISTIC CONGRESS.** One of the greatest religious assemblages in the history of the world was the 28th Eucharistic Congress, which convened at Chicago under patronage of Cardinal Mundelein, on June 21, and continued for four days. In attendance were 12 cardinals, 57 archbishops, 261 bishops, 3 apostolic delegates, 17 mitred abbots, 500 monsignori, several thousand priests, and a million pilgrims from all over the world. All the rites of the Church were represented, and twenty languages were spoken by the prelates present. The Pope was much interested in the Congress and sent to Chicago as his legate and special representative Cardinal Bonzano, former apostolic delegate to Washington. He and the other Cardinals, from Ireland, France, Spain, Germany, Austria, and Hungary, were enthusiastically welcomed in New York and on the road to Chicago. There, at the public reception to Cardinal Bonzano, a message of welcome from President Coolidge, in which the need of religion in the life of the nation was stressed, was delivered to him by Secretary of Labor Davis, representing the President. All the details of the formal programme were carried out successfully and the huge multitudes attending were handled without accident. The whole city, irrespective of race or creed, joined in the promotion of the attainment of the utmost perfection in the splendid ceremonies. The most notable of these were the "Children's Day," June 21, when 60,000 pupils of the Catholic schools were ranged in the Stadium of Soldiers' Field in Grant Park and sang the Mass of the Angels; the "Men's Night," June 22, when more than 100,000 men crowded the Stadium with lighted candles at Benediction; and the closing exercises of the Congress, the open-air mass celebrated by Cardinal Bonzano and the solemn procession that followed it, which took place on the shore of the lake, at the seminary at Mundelein, Ill., about 30 miles from Chicago. It was the greatest assemblage of people at an ecclesiastical event ever recorded.

After the Congress, five of the Cardinals and many of the prelates went to St. Louis, Mo., where they were present at the consecration of the new cathedral on June 29. The next Eucharistic Congress was to be held in Australia in 1928.

**STATISTICS.** According to the official Catholic Directory for 1926, these totals show the organization of the Catholic Church in the United States: archbishops, 15, of whom 4 were cardinals; 103 bishops; 24,352 priests, of whom 6671 belonged to the religious orders; 17,380 churches; 121 seminaries with 12,595 students;

218 colleges for men; 737 colleges and academies for women; 6819 parish schools, with 2,072,466 pupils; 352 orphan asylums, with 47,825 inmates; 117 homes for the aged; total Catholic population, 18,878,722. The gain for the year was 224,694, according to the Directory totals. The priests increased by 655; the churches, 96; seminaries, 1; colleges, 2; academies, 25; parish schools, 287; and pupils, 33,842.

The English Catholic Directory estimated the Catholics of the world at a total of 334,664,791. Of these 49,910,765 were in the English-speaking countries and 15,289,660 in the British Empire: England and Wales, 2,042,630; Ireland, 3,242,670; Scotland, 603,860; Canada, 3,633,663; Australia, 1,423,357. The increase was 10,884,631 over the previous year's figures.

**BISHOPS: ANNUAL MEETING.** The annual meeting of the hierarchy of the United States was held September 15-16, Cardinal O'Connell presiding. The bishops discussed the work of the Welfare Conference; Near East Relief; the missions; the Catholic University; a religious census; and the Mexican religious crisis. A letter of sympathy was sent to Mexican Catholics, praising their calmness, courage, and endurance under persecution. Cardinal Hayes was made chairman of a committee to address a pastoral letter from the hierarchy to the public that would be a formal expression on the situation in Mexico. This pastoral was published December 12, and was the first collective pastoral of the hierarchy since 1919.

**OTHER CONVENTIONS.** The convention of the Supreme Council of the Knights of Columbus (q.v.) met in Philadelphia, August 3-4. The Catholic Press Association Convention met in Detroit June 18-19; the Catholic Conference on Industrial Problems, in Cleveland, September 29-30; the Catholic Students' Mission Crusade at Dayton, Ohio, June 25-28; the International Federation of Catholic Alumnae at Notre Dame, Ind., September 6-8, and the National Catholic Alumni Federation at Philadelphia, Nov. 19-21.

**EDUCATION.** The 23rd annual convention of the Catholic Educational Association met at Louisville, Ky., June 28-July 1. A survey indicated that the Catholic colleges and universities had 73,674 students, an increase of 22.4 per cent during the period 1924-26. Of these, 39,869 were men and 33,805 were women. Catholic colleges for women in the United States had increased by 23 and the enrollment by 92 per cent in the years 1922-26. There were, in 1926, 711,705 instructors for the 2,313,183 students in the Catholic educational institutions in the United States. Three women's colleges had an attendance of 600; one had 1043 students; one 935; one 800; and the rest 500 or less.

**ROMANCE LITERATURE AND LANGUAGE.** See FRENCH LITERATURE; PHILOLOGY, MODERN.

**ROME, ITALY, RESTORATION OF.** See CITY PLANNING.

**ROSS, HUGH CAMPBELL.** British physician and director of the McFadden Research Foundation, died at sea December 14. He was born in 1875, and was educated at the Isle of Wight College and St. Thomas's Hospital. In 1898 he qualified as a physician, and traveled in Egypt and China. He served as a surgeon in the South African War, and received the Queen's medal with five clasps. From 1902 to 1906 he was a surgeon in the Royal Navy, where he was engaged in re-

search and laboratory work. As medical officer at Cairo, 1906-8, he started there a campaign of mosquito extermination, and in 1908 resumed his investigation of cellular pathology at the Royal Southern Hospital and School of Tropical Medicine, Liverpool. In 1910 he was appointed director of the McFadden Research Fund at the Lister Institute, Chelsea, and was engaged for several years in advising the Home Office on industrial cancer and on certain miners' diseases. Among his publications were *Induced Cell Reproduction and Cancer*, 1914, and many papers in the publications of the Royal Society, the Royal Society of Medicine, the Physiological Society, and medico-legal societies.

**ROSSI, AUGUSTE J.** American chemist, died at Niagara Falls, N. Y., September 19. He was born in Paris, France, Oct. 22, 1838, and was educated at institutions in that city. He arrived in New York at the age of 20, and for several years thereafter worked at blast furnaces. Dr. Rossi was the inventor of the process for the manufacture of titanium alloy and pigment and in 1918 he received the highest honor attainable in the United States by a chemist, the Perkin medal, for his valuable contributions to general scientific knowledge, and specifically for his alloy.

**ROTARY CLUBS.** Organizations established for the purposes of developing the highest ideal of unselfish service, of making practical application of that ideal to the business and professional life of the individual members, to organizations of which they may be members, and to the communities and nations in which they may live, and of advancing international peace and good-will through a fellowship of business and professional men of all nations united in the ideal of service. Membership in a club is limited to one representative of each business, profession, or institution in a community. The first Rotary Club was formed in Chicago, in 1905, by Paul Harris, a lawyer; three years later the second club was formed in San Francisco. In August, 1910, the first 16 clubs held a convention at Chicago to form a National Association, and in 1912 an International Association was formed to include clubs at Winnipeg, Canada, and London, England. On Oct. 1, 1926, the Rotary International consisted of 2412 clubs with an approximate membership of 123,000 in 35 countries. There were 1954 clubs in the United States, 84 clubs in Canada, 220 clubs in Great Britain and Ireland, and 154 in other parts of the world. The official publication of the organization is *The Rotarian*, a monthly printed at Chicago. *The Rotary Wheel* is the official publication for Great Britain and Ireland. Officers for 1926-27 were: President, Harry H. Rogers, San Antonio, Texas; first vice-president, Allen Street, Oklahoma City, Okla.; second vice-president, S. Kendrick Guernsey, Orlando, Fla.; third vice-president, James W. Davidson, Calgary, Canada; secretary, Chesley R. Perry, Chicago; treasurer, Rufus F. Chaplin, Chicago. Headquarters of the Rotary International are at 221 East Cullerton Street, Chicago, U. S. A., with a branch office at 12 Theaterstrasse, Zurich, Switzerland.

**ROUMANIA.** See RUMANIA.

**BOWING.** The college rowing laurels for 1926 went to the eight-oared crews of the University of Washington and Yale University. Washington nosed out the United States Naval

Academy after a gallant battle in the inter-collegiate regatta on the Hudson near Poughkeepsie, while Yale, for the sixth year in succession, took the measure of Harvard on the Thames near New London, Conn. Unfortunately, the question of supremacy as between Washington and Yale could not be settled, as these fine crews had no opportunity to pit their strength against each other.

Eight crews took part in the eight-oared event on the Hudson. Washington, the winner, covered the four-mile course in 19 minutes, 28½ seconds, the Naval Academy crew crossing the finishing line one second behind. Syracuse was third, Pennsylvania fourth and Columbia fifth. Washington also captured the junior eight-oared race, with Pennsylvania second and California third. The Columbia freshmen out-classed their rivals in the eight-oared yearling event, California finishing second and Syracuse third.

The 54th national championship regatta of the National Association of Amateur Oarsmen of America was held at Philadelphia, August 5, 6 and 7. The winners in the principal events were as follows: Senior eight-oared shells, Penn A. C.; intermediate eight-oared shells, New York A. C.; senior four-oared shells, with coxswain, Bachelor B. C.; senior doubles, Undine B. C.; championship single sculls, Walter M. Hoover.

Cambridge University for the fourth consecutive year defeated Oxford University in their annual race on the Thames, the winner's time for the 4¼ miles being 19 minutes, 29 seconds.

**ROZE, MARIE-HIPPOLYTE.** French dramatic soprano, died in Paris in June. She was born in Paris, Mar. 2, 1846, and received her first musical instruction on the piano from her mother. From 1862-5 she studied singing at the Conservatoire, under Mocker and Auber. On Aug. 16, 1865, she made her début at the Opéra Comique in the title rôle of Hérold's *Marie*, and sang at the Opéra Comique for three years. In 1870 she became a member of the Grand Opéra. Throughout the Franco-Prussian War she served as a nurse with the ambulance corps, and was decorated by President Thiers with the gold medal. She resumed her artistic career at Brussels and Amsterdam. During 1872-90 she sang, in London, at Drury Lane, Her Majesty's Theatre and Covent Garden, and with the Carl Rosa Opera Company. For two seasons she was also heard in New York, 1877-8 and 1880-1. In 1890 she retired from the stage, and settled in Paris as a teacher, but still appeared frequently in London in concerts until 1903. In 1874 she married an American basso, Julius Perkins, who died the next year. Her second marriage, in 1877, with Henry M. Mapleson, a son of the famous impresario, Colonel J. H. Mapleson, proved unhappy and ended in divorce.

**RUBBER.** The world's production of rubber for 1926 was estimated at from 600,000 to 615,000 tons, of which plantation rubber was by far the greatest amount. Based on a grand total of 600,000 tons for the year, the following distribution of the estimated production was made:

	Long tons
India and Burma .....	10,000
British North Borneo .....	5,000
Sarawak .....	9,000
French Indo-China .....	8,000
Siam .....	4,000
<b>Total .....</b>	<b>558,000</b>
<b>Wild rubber:</b>	
Amazon Valley .....	26,000
Mexico (Guayule Rubber) .....	4,000
Central America .....	3,000
Africa .....	9,000
<b>Total .....</b>	<b>42,000</b>
<b>Grand total .....</b>	<b>600,000</b>

The estimated consumption in 1926 was approximately 545,000 tons, distributed as follows:

	Long tons
United States .....	366,000
United Kingdom .....	40,000
France .....	85,000
Germany .....	25,000
Canada .....	20,000
Japan .....	15,000
Italy .....	12,000
Other .....	30,000
<b>Total .....</b>	<b>543,000</b>

In addition, the stocks held over from the previous year amounted to 75,000 tons.

In 1925 it had been estimated that the United States consumption, which in that year was 389,000 tons, would amount in 1926 to 400,000 tons, but this amount was not attained, and the *India Rubber World* placed its 1926 estimate at 359,414 tons and that for 1927 at 370,000 tons. There was increased consumption of reclaimed rubber in the United States, based on the improvement of processes which had improved the quality. Also, the high price of crude rubber figured extensively, so that in spite of prejudices, the reclaimed material was found available for many manufacturing processes. According to the United States Federal Census, the production of reclaimed rubber in the United States during 1925 was 110,841 long tons, which was an increase over 1923 of 85.1 per cent. This may be compared with the consumption of crude rubber given by the same census report, which was 387,629. In 1926 the consumption of reclaimed rubber was estimated by the *India Rubber World* at 164,000 tons, which was a substantial increase over that for 1925 and was said to account in part for the decline in the consumption of the crude. In 1927 the consumption of reclaimed rubber was estimated at 175,000 tons.

According to the compilation of the U. S. Rubber Association, the importations of crude rubber into the United States during the calendar year 1926 totalled 411,962 long tons, distributed as follows: Plantations, 386,748 tons; Paras, 13,184 tons; Africans, 3619 tons; Centrals, 4861 tons; Guayule, 3524 tons; Manicoba and Matte Grosso, 26 tons. Considering the importation by months, March held the record with 42,677 tons, while August showed the smallest imports, with 25,982 tons. Considering the arrivals of plantation rubber by ports during the year, New York received 356,307 tons, followed by Boston with 14,724 tons, Los Angeles with 9559 tons, and Baltimore with 4255 tons. During the year rubber prices in New York showed a general decline, in contrast with the increases

	Long tons
<b>Plantation rubber:</b>	
British Malaya .....	276,000
Ceylon .....	56,000
Dutch East Indies .....	190,000

recorded in the previous year. This decline started in December, 1925, when rubber sold at about \$1.10 a pound or slightly below the peak of \$1.20 in July, 1925, and at the end of December, 1925, the price was \$.90. In six months a price level of about \$.40 was attained and this continued throughout the year.

On August 5 the British Colonial Office in London stated that 21 pence would be retained as the determining point in the decision of restriction for the quarter beginning November 1. On October 25, however, new restriction rules were announced by the Colonial Office for the ensuing year, based on London quarterly average prices, as follows: Where the price was under 21 pence but not under 15 pence during any quarter the exportable percentage for the ensuing quarter was to be reduced by 10; where the reduction was from 100 per cent the reduced percentage was to be 80; if the price was not under 21 pence, but less than 24 pence, there was to be no change in the ensuing quarter; if, in each of the three consecutive quarters, the average was not under 21 pence the percentage for the ensuing quarter was to be increased by 10; where the price for any quarter was 24 pence or over the percentage was to be increased by 10 for the ensuing quarter; if the increase was from 80 per cent the increased percentage was to be 100; where the average descends below 15 pence in any quarter the percentage in the ensuing quarter was to be reduced to 60; if the average exceeded 26 pence in any quarter the percentage in the ensuing quarter was to be increased to 100. The percentage was to range in all cases below 100 and above 60.

During 1926 the United States re-exported crude rubber to the amount of 39,583,454 pounds (17,671 long tons), valued at \$22,470,583. The exports of rubber and rubber manufactures in 1926 totaled in value \$59,205,260 as against \$51,340,693 in 1925. The principal items of manufactured domestic rubber exported in 1926 were as follows:

Articles	Quantity	Value
Boots . . . . .	1,013,112 *	\$2,371,953
Shoes . . . . .	1,485,751 *	1,451,798
Canvas shoes with rubber soles	5,469,004 *	8,968,566
Tire casings . . . . .	1,497,132	24,358,907
Automobile tubes . . . . .	1,127,175	8,024,177
Solid tires . . . . .	1,649,128	3,959,969
Tire rubber accessories and repair materials . . . . .		1,612,074
Rubber belting . . . . .	4,175,810 *	2,657,086
Rubber hose . . . . .	6,124,960 *	2,523,402
Rubber packing . . . . .	2,149,387 *	1,096,985
Rubber soles and heels . . . . .	4,277,301 *	1,363,489
Rubber thread . . . . .	1,459,929 *	1,958,246

\* pairs, † pounds.

During the year the government of Liberia ratified a 99-year lease to the Firestone-Liberia Plantation Company of 1,000,000 acres of land in that republic which was selected by Harvey S. Firestone after investigating the rubber-growing possibilities in various countries of the world. This project was undertaken so that America would be able to grow its own rubber and not be dependent upon the British colonies and other countries. It was also announced late in the year that the harbor at Monrovia would be improved and various sanitary works put under way in preparation for the actual work in the jungle at which some 5000 natives were engaged at the end of the year. Mr. Firestone

announced that a maximum production of 200,000 tons of rubber annually would be raised in Liberia. During the year rubber was shipped to Akron, Ohio, from a 2000-acre plantation near Monrovia which had been abandoned by the British and taken over by the Firestone Co. See also CHEMISTRY, INDUSTRIAL.

**RUINS.** See ARCHÆOLOGY.

**RUMANIA.** The largest and northernmost of the Balkan states; separated from Hungary by the Carpathian Mountains and the Transylvanian Alps; bounded on the south by the Danube River and Bulgaria; on the east by Russia and the Black Sea; a constitutional monarchy. It is made up of the following divisions: The two old principalities of Wallachia and Moldavia (united in 1861); the Dobruja; Besarabia, ceded in March, 1918; Bukowina, in November, 1918; and Transylvania, in December, 1918. Area before the War, including territory taken from Bulgaria by the treaty of Bucharest, Aug. 7, 1913, 53,849 square miles; population, estimated in 1915, 7,904,104. Area after the War, 122,282 square miles; population, 17,393,149. Chief towns with their populations at the latest available dates; Bucharest, capital, 308,987 (1917); Chisinau, 114,100 (1914); Cernauti, 87,128 (1914); Ismail, 85,600 (1914); and Jassy, 76,121 (1914). The movement of population in 1924 was: Births, 622,580; deaths, 382,915; marriages, 154,173.

**PRODUCTION, ETC.** The chief grain crops are wheat, rye, barley, oats, and maize. No later statistics are available than those given in the preceding YEAR BOOK. (See table on Production by Countries in article AGRICULTURE.) A considerable acreage is devoted to vineyards, and tobacco is grown to some extent. The only industries of importance are flour milling, brewing, and distilling. The chief minerals are salt, iron, lignite, copper, and petroleum. The production of crude petroleum in 1925 amounted, to 2,316,504 metric tons, the highest figure in the history of the Rumanian industry and an advance of about 25 per cent over the 1924 production of 1,851,303 tons. The disposition of the petroleum output of 1913, 1924, and 1925 is shown in the following table:

#### DISPOSITION OF RUMANIAN PETROLEUM PRODUCTION [In metric tons]

Year	Production	Treated in refineries	Exported	Domestic consumption
1913 . . . . .	1,885,619	1,787,245	1,036,446	812,897
1924 . . . . .	1,851,303	1,644,144	435,504	870,017
1925 . . . . .	2,316,504	2,151,149	788,823	1,119,464

**COMMERCE.** The exports and imports for the year 1924, the last year for which complete statistics were available, were valued in lei as follows: Imports, 26,300,000,000; exports, 27,800,000,000, (1 leu equals at par \$.193; at average rate of exchange in 1926 \$.0046.) Exports from Rumania to the United States in 1925 were valued at \$561,585, as compared with \$150,887 in 1924 and with the previous high record of \$551,235 in 1922. The great increase over 1924 was characteristic of the wide fluctuation in the value of the trade since the War; but there was a tendency toward concentration on a few principal articles, and this should make for greater steadiness in the future. Walnuts were by far the most important item, being



valued at \$347,926 as against \$83,353 in 1924.

**FINANCE.** The budget bill for the fiscal year beginning Jan. 1, 1926, was finally passed in the form recommended by the Minister of Finance, and contained an additional 1,000,000,000 lei, which brought the total of the ordinary budget up to 29,250,000,000 lei. On the revenue side this addition is explained as a surplus carried forward from the 1925 budget; and on the expenditure side, as a fund for increasing the salaries of the state employees after July 1, 1926. The railway administration, for the first time excluded from the regular budget, was expected to become self-sustaining by the aid of a 30 per cent increase in rates; its estimated income and revenue balanced at a little more than 10,000,000,000 lei. The regular budget involved an increase in expenditure of approximately 6,000,000,000 lei over the corresponding allowances for 1925. The means counted on to provide the additional revenues included a new stamp tax, increased postal and telegraph charges, increased prices for products of state monopolies, more efficient application of existing taxes, and greater exploitation of the national wealth, including royalties from forests and mines. A decrease was indicated in the export tax receipts, which were estimated at 4,000,000 lei instead of the 5,000,000 of the 1925 budget. These export duties were still high (from \$6 to \$15 a ton on grains) and are a severe handicap to the normal development of Rumania's foreign trade.

**GOVERNMENT.** Under the constitution of Mar. 28, 1923, which nationalized all the forests and subsoil, executive power is vested in the king and a council of ministers, the king having a suspensive veto over the laws passed by parliament; and legislative power is vested in a senate of 170 members and a chamber of deputies of 347 members. The senate is composed of life members and various classes of officials; the deputies in the lower house are elected by all tax-paying citizens 21 years of age. The King in 1926 was Ferdinand I, born Aug. 24, 1865; succeeded his uncle, King Carol, Oct. 11, 1914. The ministry, as appointed Mar. 30, 1926, was as follows: Prime Minister, General Averescu; Interior, M. Goga; Foreign Affairs, M. Mitilineu; Agriculture, M. Garofid; Public Instruction, M. Negulescu; Finance, M. Lapedatu; Labor, M. Trancu; Public Worship, M. Goldis; Justice, M. Cucalbu; Industry and Commerce, General Coanda; Bessarabia, M. Nita; Bukowina, M. Popovici; War, General Mircescu; Communications, General Valeanu; Public Health and Social Welfare, M. Lupas.

**HISTORY.** At the very beginning of the year, all sorts of rumors were prevalent because of the renunciation of the rights of succession by Crown Prince Carol. His act was announced on the last day of 1925 at Bucharest, and was accepted by parliament Jan. 4, 1926. Michael, the four-year-old son of Carol, was named as heir apparent, and a committee of three was named to act as a regency in case King Ferdinand died before Michael became of age. The former crown prince promised not to return to Rumania for ten years. He resided in Milan, and, according to some, was merely biding his time until he could return to Rumania and overthrow the Bratiano régime and restore a really democratic government to the country. Others asserted that he took this action so that he could spend his

time freely with his formermorganatic wife, Zizi Lambrino. Prince Carol seemed very popular among the common people of Rumania. On January 24 the government announced that the parliament would be dissolved April 3.

Before the elections were held, the Bratiano ministry resigned, largely because of public dissatisfaction over the Carol affair, which was believed to have been hatched by Bratiano to strengthen his hold on the government. He was succeeded by General Averescu, the leader of the People's Party, who thus took charge of the elections held throughout the country May 25. Running true to form, the Averescu group, although controlling only a few members in the old parliament, succeeded in electing a majority of members of the new parliament. There is no doubt that the government saw to it that this result should be brought about. Most of the government's majority was piled up in the rural districts. The prime minister was able to accomplish this result largely because he was a member of the industrial oligarchy which has ruled Rumania for years. There is no such thing as genuine freedom of election, and frauds of all kinds were resorted to, in order to bring about the desired result. The same charges could be safely made against the régime of Bratiano. He and Averescu have been very successful in creating victorious political parties almost over night.

On September 30, Queen Marie left Bucharest for an extended trip through the United States and Canada. She sailed from Cherbourg October 12, after a meeting with Carol in which it was rumored that she had patched up his dynastic difficulties. After a 10,000-mile tour of the United States and Canada, Queen Marie sailed for home from New York, November 23. She was compelled to shorten her visit because of the reported serious illness of King Ferdinand. All kinds of rumors were in circulation concerning the reasons for the royal visit. The most common was the feeling that it was a preliminary to the raising of a huge loan in America for Rumania. This belief was not borne out by the close of the year, however. See ITALY.

**RUMANIAN LITERATURE.** See PHILOLOGY, MODERN.

**RUM SMUGGLING.** See PROHIBITION.

**RUSSELL SAGE FOUNDATION.** An institution established by Mrs. Russell Sage in memory of her husband. The endowment was \$10,000,000, to which \$5,000,000 was added by will. It was incorporated by an act of the Legislature of New York in April, 1907, for "the improvement of social and living conditions in the United States of America." The Foundation does not relieve individual need, but studies and interprets facts with regard to social conditions and methods of social work, makes the information available by publications, conferences, and other means of public education, and seeks in various ways to stimulate action for social betterment. The Trustees of the Foundation are: Robert W. de Forest, president; Lawson Purdy, vice-president and treasurer; John M. Glenn, secretary and general director; Frederic A. Delano, John H. Finley, Mrs. Frederic S. Lee, Dwight W. Morrow, Mrs. Finley J. Shepard and Harold T. White. During the year two trustees have died, Mrs. William B. Rice and Miss Louisa Lee Schuyler, both members of the Board since the organization of the Foundation.



The work of the Foundation is carried on through departments whose titles and directors are as follows: Charity Organization, Mary E. Richmond; Industrial Studies, Mary Van Kleeck; Publication and Library, Frederick W. Jenkins; Recreation, Lee F. Hammer; Remedial Loans, Leon Henderson; Statistics, Ralph G. Hurlin; Surveys and Exhibits, Shelby M. Harrison, who is also vice-general director of the Foundation. A consultation service on problems of Delinquency and Penology is under the direction of Hastings H. Hart.

During the year the Charity Organization Department continued its study of marriage administration. Through several committees in different parts of the country, the Director assisted and advised on the subject of marriage laws and their enforcement. The Department also carried on a correspondence service with a number of family welfare societies for the purpose of advising about their treatment of particularly difficult family situations. Case records were submitted by societies in 20 different cities. A Dutch translation of "*What is Social Case Work*," by Mary E. Richmond, had been published and a French edition of the book was in press at the end of the year.

As Consultant in Delinquency and Penology, Dr. Hastings H. Hart continued his studies of the detention of Federal prisoners in local jails. The report, *United States Prisoners in County Jails*, submitted by Dr. Hart, as Chairman of the Committee on Lockups, Municipal and County Jails, to the 55th congress of the American Prison Association, was published by the Foundation in 1926. It contains information of a sort never before compiled with reference to United States prisoners boarded out by the Federal government, showing the condition under which they are kept in county jails and the evils of the system. The recommendations of the Committee that the Federal government establish a jail system of its own and provide a training school for prison officials were accepted by the Association, which appointed a committee to further the realization of the suggestions.

Dr. Hart's advisory service with reference to this problem was continued. Advice was also given with reference to proposed jails in Cook County, Chicago; in Philadelphia, in Sumter County, South Carolina; and in Essex County, New Jersey. Dr. Hart assisted in a study of the Sangamon County Jail at Springfield, Illinois, and continued his service with reference to the proposed reorganization of the New York City Prison system. In May, 1926, upon the request of the Commissioner of Correction of the City of New York and the Warden of the Manhattan City Prison, known as "The Tombs," a detailed study was made of that institution. The report disclosed many unsatisfactory conditions and recommended changes relating in particular to quality, training and payment of the personnel.

Plans for industrial relations, which included some form of participation in management by wage-earners, continued to be the major interest of the Department of Industrial Studies. The Department was also carrying forward work for the improvement of statistics of employment and unemployment, and a study of methods of research in industrial relations, formulating its own experience as well as analyzing methods used in other similar investigations.

During the year, three reports were completed. The study, *Securing Employment for the Handicapped*, by Mary La Dame, was made at the request of a committee representing placement agencies for the handicapped for the purpose of better coördination of their work. The *Canadian Industrial Disputes Investigation Act*, by Ben M. Selekman, added to the material published by the Foundation in 1916 the facts of ten more years of experience. *Regularity of Employment in German Coal Mines*, by Sadie Engel, is an analysis of the situation in Germany and followed a report previously published by the Foundation on irregularity of employment in the bituminous coal mines of the United States.

The Department of Recreation has served in part as a section of the Social Division of the Regional Plan of New York and Its Environs. The chief work of the year was the preparation of two major reports which embodied the results of its several investigations. The purpose of the first study, called the *Neighborhood Unit*, was to provide a model for planning neighborhood sections in cities with adequate provision for business, residence and public facilities. The other, which summarized all the recreational resources of the region, provided an inventory of present facilities and suggested ways of increasing their usefulness and providing for future requirements. Robert K. Atkinson continued his experiments with physical training and recreation programme in selected institutions and organized courses of instruction for institution workers. Other activities of the Department had to do with community organization, physical tests of high school boys and girls, physical tests for use in citizen-military training camps, recreation in rural districts, recreation progress in New York City, the promotion of good sportsmanship and athletic badge tests, and motion pictures.

The Director of the Department of Remedial Loans visited most of the states in which the Uniform Small Loan Law or a similar law was operative to study the social effect of such legislation, and assisted movements looking toward the enactment of remedial loans legislation in 1927, especially in Missouri and Minnesota.

The Department was actively concerned with making plans for the elimination of the unregulated practice of so-called salary buying, a device for evading provisions of the Uniform Small Loan Law and usury laws, by a pretended purchase of earned wages. It assisted the promotion of credit unions in New York and published summaries of material in the New York State Banking Department's reports showing significant items in the increase of the credit union business.

Although editorial and statistical work for other departments of the Foundation accounted for a large share of the efforts of the Department of Statistics, several original investigations were carried on during 1926. These included the course of social work salaries since before the World War, the number and distribution of positions in social work in the United States; the trend of relief disbursements and the use of statistical measurements in family case work. As secretary of the Committee on Governmental Labor Statistics, the director was largely responsible for a report on methods of

compiling employment statistics which was made public during the year.

The Department of Surveys and Exhibits completed during the year a report on welfare problems in New York City for the Welfare Council of the city, listing 527 reports of social studies made from 1915 through 1925. *A Study of Social Publicity Methods* was also completed and the manuscript prepared for publication. Among other studies in process were the *Social Survey: A Bibliography*; and *Arts and Crafts of the Homelands*. Members of the Department served on a number of committees dealing with social surveys, research and methods of disseminating information of value in improving social conditions, and gave courses of lectures at Columbia University and at the New York School of Social Work. The Director of the Department gave part time as Director of the Social Survey Division of the Regional Plan, and in addition to the reports completed by the Department of Recreation, studies of density of land occupancy, housing and population were prepared.

The Library of the Foundation is open to all who are interested in social welfare. It contains about 26,000 bound volumes and 90,000 pamphlets. The attendance of readers and others reached a total of 22,306 in 1926. Six numbers of the bi-monthly bibliographical bulletin were issued on the following subjects: "Coöperative Housing," "Vagrancy," "Provisions for Care of the Aged," "Books on Social Subjects Published in 1925," "Social Case Work," and "American Foundations." There were also prepared 175 typewritten bibliographies, varying from a few titles to comprehensive lists, on social questions.

The Foundation continued to carry the cost of the preparation of the *Regional Plan of New York and Its Environs*. The Committee works through a series of divisions dealing respectively with public relations, engineering, studies in planning, architecture, economics and industry, of social and living conditions, and legal problems, all under the direction of Thomas Adams. Besides special reports in each field, the work of making a general regional plan based on a comprehensive and coordinated study of land uses and means of circulation throughout the area of 5528 square miles was proceeding. A Regional Council, composed of 141 individuals and representatives of planning agencies throughout the region, was organized, and planning commissions were appointed in 31 communities. During 1926 bulletins dealing with highways and parks on Long Island were issued, a statement submitted to the Mayor's City Planning and Survey Committee concerning the use of East River islands for recreational purposes, and pamphlets published on the *Origin and Destination of New York City's Vehicular Traffic* and on *Recent New York Legislation for the Planning of Unbuilt Areas*.

**RUSSIA.** A republic comprising the greater part of the former Russian Empire; officially entitled the Union of Soviet Socialist Republics. Capital, Moscow.

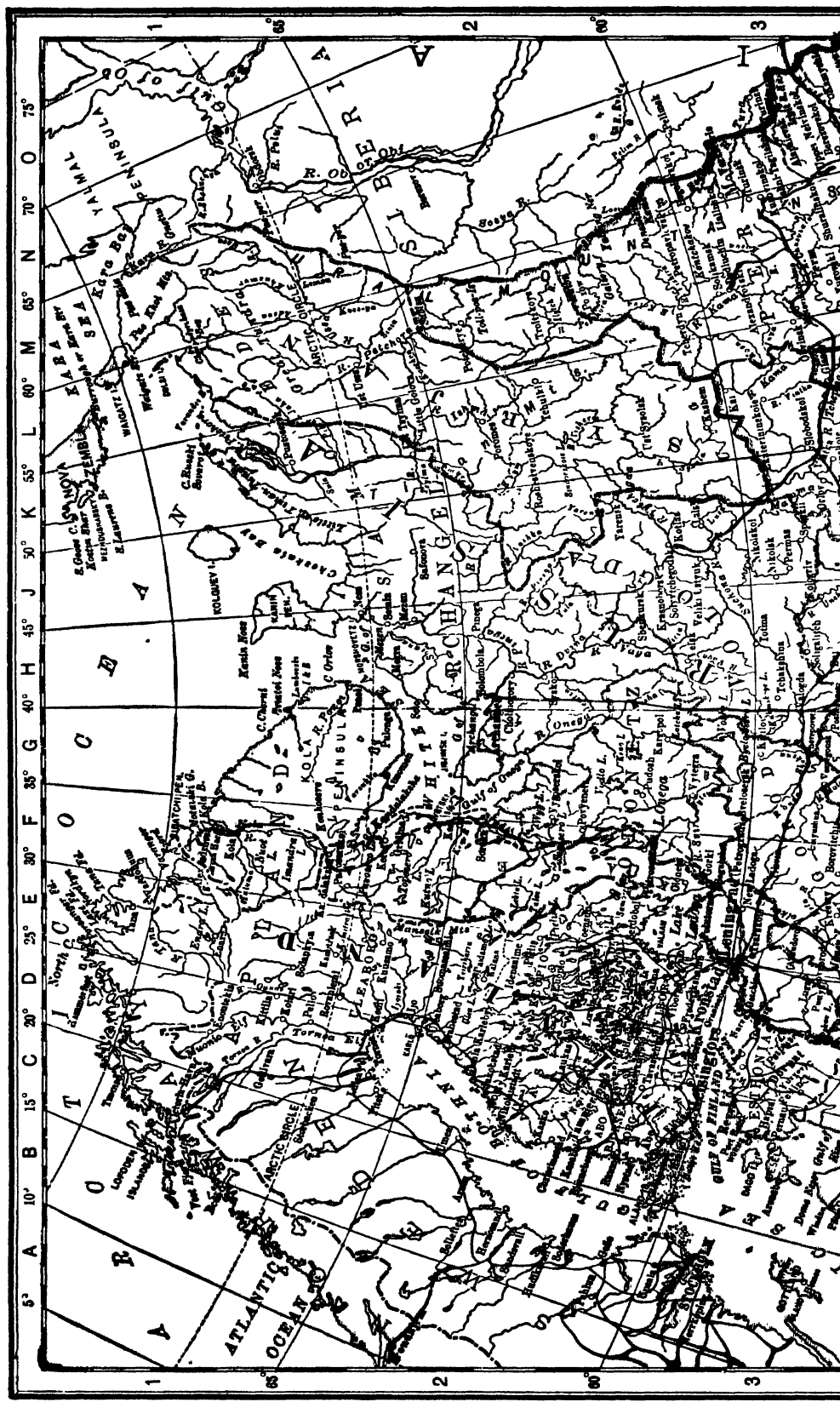
**AREA AND POPULATION.** According to the Russian Information Bureau, which supplied much of the material used in this article, the area of the Union of Soviet Socialist Republics was 8,200,000 square miles in January. On Jan. 1, 1926, the population of the Soviet Union exceeded the 1913 population in the same terri-

tory. The 1926 estimate was 141,400,000. In 1925 it was 138,781,000, and under the census of 1920 it was 131,000,000. Before the war it was 140,000,000. The gain in population is attributed largely to the steady reduction in the death rate, particularly from epidemic diseases. The death rate from typhoid in 1926 was a little over one-third of the pre-war rate and that from smallpox one-fourth. Of the 1926 population, 72,410,000 persons were classed as gainfully employed. These included 59,846,000 persons engaged in agriculture and 7,000,000 engaged in industry, transport and construction. The number of persons classed as living on independent incomes in the Soviet Union was estimated at 50,000. The number of unemployed in the estimates was 1,230,000. The total urban population was 23,700,000 and rural, 117,700,000. The Union of Soviet Socialist Republics is composed of six constituent republics as follows (with 1925 population figures): Russian Socialist Federated Soviet Republic, 95,787,942; White Russian Soviet Socialist Republic, 4,454,673; Ukrainian Soviet Socialist Republic, 27,243,222; Transcaucasian Federation, 5,577,155; Turkoman Soviet Socialist Republic, 914,558; and Uzbek Soviet Socialist Republic, 4,803,600. The largest union of the federation is the Russian Socialist Federated Soviet Republic, which consists of 10 autonomous republics, 13 autonomous regions, 3 areas, 44 provinces, 46 regions, 363 counties, 652 districts, and 3728 townships. The other members of the federation are divided up similarly into districts. According to recent data, Moscow, the capital, has 1,900,000 inhabitants, including 953,165 men and 946,835 women. The corresponding figures for 1913 were: 1,694,815 inhabitants, including 943,215 men and 811,685 women.

**EDUCATION.** Public education in the Soviet Union is a charge against the six constituent republics and against the localities concerned. Local appropriations are in the aggregate somewhat larger than those of the republican governments. At the date of going to press, the figures for the full appropriations for the Soviet Union for the fiscal year 1926-27 were not yet available. Appropriations, both state and local, for the R. S. F. S. R. (Soviet Russia proper, containing about 70 per cent of the population of the Union) were \$215,682,000, as compared with \$179,632,000 for 1925-26. In the fall of 1926, at the beginning of the school year, it was officially reported that 99 per cent of the children of school age in Moscow city were in school, and throughout Moscow province 94 per cent. See preceding YEAR BOOK for the latest school statistics.

**PRODUCTION, ETC.** Land and natural resources are held in trust by the government for the general population, and may not be acquired by private title. Every citizen is entitled to secure land for cultivation, the form of tenure being that of perpetual leasehold. Natural resources are exploited by the state trusts; by mixed companies, under concession, in which the state has a participating interest; or by private companies under concession. Such private concessions run for a limited period of years (generally 15). The transport system, and the posts, telephones and telegraphs, are operated as government departments. Industry is conducted largely by state trusts. Private factories employing not over 20 persons may operate with-









out formality. For enterprises employing from 21 to 100 persons permission of local authorities is necessary, and for larger enterprises a special leasing or concession agreement from the government is required. Many industrial enterprises are conducted by the coöperatives. Universal military service is incumbent on all. Non-producers (i.e., persons not engaged in socially useful work) may not vote and are exempt from army service.

Reports of the harvest received late in 1926 indicated a grain crop in the neighborhood of 2,800,000,000 bushels, or about 225,000,000 bushels greater than in 1925. This was close to the harvest of 1913, an average pre-war year, in the territory included in the present Soviet Union. The industrial crops, including cotton, sugar beets, oil seeds and potatoes, were well above the pre-war average, with the exception of cotton and sugar beets. Prolonged droughts in the cotton belt reduced the crop below the 1925 year. In October, 1926, 22,500 tractors were in use, as compared with 5000 in the spring of 1925. In 1926 the monthly figures of industrial production approximated those of 1913 and were showing a steady gain. In 1921 the monthly output was less than 15 per cent of that of 1913. The recovery was particularly rapid during 1925 and 1926, with the exception of a slowing up during a period of financial stringency during the winter of 1925. For the Soviet fiscal year ending Sept. 30, 1926, the value of industrial production was 41 per cent greater than during the fiscal year, 1924-25. State industry yielded a net profit for the year of \$231,750,000.

The total ascertained coal deposits in the Soviet Union were estimated at 428,000 million metric tons. By the autumn of 1926 the month-to-month figures of coal production equaled the pre-war rate. Coal production for the fiscal year 1925-26 was 24,302,200 metric tons, as compared with 16,083,500 tons in 1924-25 and 28,356,000 tons in 1913.

Oil production in the Soviet Union for the Soviet fiscal year ending Sept. 30, 1926, broke all post-war records, and oil exports for the fiscal year set an entirely new mark, being 10 per cent greater than the record exports of 1924-25 and nearly 60 per cent greater than the exports of 1913, an average pre-war year. Production for the fiscal year was 8,142,000 metric tons and exports were 1,450,000 metric tons. At the close of the year, during August and September, the monthly record of production became greater than the pre-war rate. Each month during the second half of the fiscal year the production figures showed an increase of between 3 and 4 per cent over the preceding month.

The increase in production for the year, as compared with 1924-25, was 17 per cent. New drillings in the fields amounted to 936,500 feet, as compared with 590,700 feet in 1924-25, an increase of nearly 60 per cent. The mechanical condition of the fields was materially advanced during the year, mechanization was extended and working efficiency improved. During the year upwards of \$55,000,000 was spent on new construction, replacements, etc. The Presidium of the Supreme Economic Council late in the year approved the control figures of the oil industry for the expenditure of \$73,516,000 on such development during the current fiscal year.

In productivity the oil fields of the Soviet Union rank third among producing countries, being surpassed only by those of the United States and Mexico. The oil reserves of the country, however, are easily the greatest in the world. At a conservative estimate these reserves are supposed to amount to approximately 2,000,000,000 metric tons, though this does not include a number of regions as yet inadequately investigated. The Baku and Grozny fields and those of the Emba-Ural district have been the most productive. Oil is also found in the Maikop district, in the Province of Kuban, at the western end of the Caucasus, on Tcheleken Island in the Caspian Sea, in the Ferghan district in Turkestan, on Sakhalin Island in the Pacific, and in other parts of the country, both in Europe and Asia. The Academy of Sciences of the Soviet Union was coöperating with the Soviet oil industry in exploring and charting new fields, and within the next few years a more comprehensive estimate of the oil resources than hitherto had been available may be expected. One of the interesting discoveries of rich oil-bearing lands during the year was made in the Novo-Grozny fields, north of Grozny proper.

A considerable increase was attained by the Soviet textile industry during the fiscal year 1925-26 (from Oct. 1, 1925, to Sept. 30, 1926), as compared with the preceding year. The cotton industry turned out 243,400 metric tons of yarn in 1925-26, as compared with 186,000 metric tons in 1924-25, and 2,131,000,000 meters of unfinished goods as against 1,595,400,000 meters in 1924-25. Thus, the total output of yarn increased by 30.9 per cent during the year, while the output of unfinished goods increased 33.6 per cent. The woolen industry turned out 32,800 metric tons of yarn in 1925-26, as against 27,700 metric tons in 1924-25, and 66,800,000 meters of unfinished goods as against 52,600,000 in 1924-25. In the linen industry the output of yarn increased by 31.9 per cent for the year, that of unfinished linen by 22.4 per cent and that of bags by 25.2 per cent. The production programme for 1926-27 (beginning Oct. 1, 1926) provides for the output of 2,380,000,000 meters of unfinished cotton goods, 190,000,000 meters of linen (including 61,000,000 bags), 35,000,000 meters of worsted goods, 18,000,000 meters of light woollens and 17,500,000 meters of heavy woollens.

The metal industry of the Soviet Union increased its output by 100 per cent in 1924-25 and by an additional 60 to 65 per cent in 1925-26. It was still considerably behind pre-war production, being the slowest industry to recover, though the output of agricultural machinery and several kinds of technical machinery in 1926 was above the pre-war production. Statistics of iron and steel production, in thousands of metric tons, follow:

	1925-26	1924-25	1913
Pig iron .....	2,221	1,292	4,206
Martin steel .....	2,918	1,868	4,247
Rolled iron .....	2,232	1,990	8,509

Production of iron ore for 1926 was 55 per cent of 1913. Production of manganese exceeded the pre-war rate by nearly 30 per cent. Both in the Chiaturi fields, operated by the Harri-man interests from the United States, and in the Nicopol fields, operated under the Soviet

trust system, substantial gains in production were shown during the year. The figures of manganese production in metric tons follow:

	1925-26	1924-25	1913
Nicopol .....	815,000	880,000	251,000
Chiaturi .....	772,000	436,000	970,000
Total .....	1,587,000	816,000	1,221,000

According to the U. S. Department of Commerce, the American imports of Chiaturi manganese for the period of the Soviet fiscal year ending Sept. 30, 1926, were 172,444 tons, valued at \$6,549,687.

COMMERCE. The foreign trade turnover at all frontiers is shown in the following table:

1918 .....	\$1,350,000,000
1922-23 .....	199,800,000
1923-24 .....	484,910,000
1924-25 .....	666,925,000
1925-26 .....	733,360,000

Exports for 1925-26 increased 16 per cent as compared with 1924-25, and imports increased 4.6 per cent.

The unfavorable trade balance for the fiscal year 1925-26 was \$45,268,500, as compared with \$79,670,500 in 1924-25.

A change to a favorable trade balance was effected in the fall of 1926. The monthly reports showed a marked favorable balance in September, October and November.

Some of the principal exports for the fiscal year 1925-26, in rubles, were as follows:

Exports	Rubles
Grain .....	156,011,000
Butter .....	80,850,000
Eggs .....	23,629,000
Timber .....	52,030,000
Seeds .....	14,181,000
Furs .....	63,818,000
Bristles .....	10,279,000
Manganese ore .....	21,285,000
Petroleum products .....	69,487,000
Flax and tow .....	44,822,000
Oil cake .....	23,673,000

Imports of production goods constituted 76 per cent of total imports, raw and half-finished materials having been imported to the value of 365,296,000 rubles (\$188,127,400).

During the fiscal year the foreign trade turnover on the European frontiers was as follows: Exports 589,100,000 rubles, imports 673,800,000 rubles, turnover 1,262,900,000 rubles (\$650,393,500).

The figures for American-Russian trade for 1913 and for the past three fiscal years are as follows:

	Exports to U. S.	Imports from U. S.
1913 .....	\$7,290,000	\$40,730,000
1923-24 .....	4,377,500	49,955,000
1924-25 .....	10,918,000	102,536,500
1925-26 .....	12,875,000	61,748,500

The principal Soviet imports from the United States during the past two Soviet fiscal years follow:

	1925-26	1924-25
Cotton .....	\$33,436,000	\$44,284,833
Agricultural machinery .....	8,088,000	8,000,000
Industrial machinery .....	6,819,300	7,100,000
Metals .....	2,034,400	1,240,000
Typewriters .....	558,432	675,250

The principal Soviet exports to the United States are furs, manganese, flax and tow, sheep casings, licorice root and bristles.

FINANCE. By the end of June, 1924, Soviet currency was established on a gold basis, and since that time there have been no paper issues.

Budgets of Soviet fiscal years, ending Sept. 30, in millions of rubles (1 ruble = \$.515):

	1922-23 (actual)	1923-24 (actual)	1924-25 (actual)	1925-26 (estimated)
Revenues .....	1460.0	2298.1	2905.1	4039.3
Expenditures .....	1463.5	2298.1	2875.6	3921.5

#### DETAIL OF REVENUES [Millions of rubles]

	1923-24	1924-25	1925-26
Ordinary revenue:			
Taxation and duties ..	788.5	1,344.3	1,889.9
Revenue from state enterprises and property .....	935.3	1,802.2	1,961.3
Extraordinary revenue:			
Loans .....	183.3	129.3	120.0
Silver and copper coins ..	74.4	80.0	30.0
Paper currency .....	126.3	....	....
Realization of state funds .....	80.6	24.3	28.1
Other revenue .....	139.5	....	....
Balance from previous budget .....	....	....	20.0
Total .....	2,289.1	2,905.1	4,039.3

According to the Commissariat of Finance, the state budget of the U. S. S. R. for the fiscal year 1926-27 provides for a revenue aggregating 4,758,500,000 rubles (\$2,450,627,500). This revenue is composed as follows:

	Millions of rubles
Direct taxes ..	762.7
Indirect taxes ..	1,280.0
Duties ..	173.3
Receipts from transportation and posts and telegraphs .....	1,810.6
Receipts from state industries .....	168.2
Receipts from state trading operations ..	30.2
Receipts from the exploitation of state forests ..	195.1
Other revenue ..	208.4
Internal loans ..	130.0
Total .....	4,758.5

According to preliminary data the internal state debt of the Soviet Union, as of Sept. 1, 1926, amounted to 640,058,000 rubles (\$329,629,870). This debt was divided into the following categories:

	Rubles
First lottery loan .....	109,000,000
Second lottery loan .....	52,200,000
8 per cent internal loan, 1924 ..	81,026,000
Peasant loan of 1924 .....	7,596,000
5 per cent short-term loan .....	201,000
Second peasant loan .....	78,875,000
Second 8 per cent loan .....	13,357,000
Short-term treasury bonds ..	82,573,000
Economic reconstruction loan ..	224,430,000
Total .....	640,058,000

RAILWAYS. In 1926 the railway mileage of Russia consisted of 46,157 miles of tracks, which was greater than the pre-war mileage of the country, despite the losses to the border countries where the Czarist government had built a network of strategic railways for the anti-



pated war with Germany. The volume of traffic was about 8 per cent of pre-war traffic. The number of locomotives in good order in August, 1926, was 10,818, as compared with 16,850 in 1913. Average daily freight car loadings in September, 1926, were 28,531, as compared with an average of 24,007 for the fiscal year 1925-26. The total revenues for 1925-26, according to preliminary figures, were \$659,200,000, as compared with \$476,332,000 the previous year.

Extensions to existing lines were being pushed steadily. Among the new lines being built is the south Siberian trunk line from Orsk to Barnaul, 1250 miles. The most important of the new lines to be begun in 1926 was a railway to run from Semipolatsk, in southwestern Siberia, almost directly south to Frunze (formerly Pishpek) in the cotton belt in Central Asia (882 miles). New construction was planned aggregating 1400 miles of line. A beginning was made in electrifying the suburban lines about Moscow and Leningrad, and an extensive electrification programme was arranged for the ensuing five years. While railway rolling stock was not up to pre-war standards, the equipment was being used more efficiently, as indicated by the following figures:

	1913	1924-25	1925-26
<i>Passenger traffic</i>			
Million passenger-kilometers	25,220	19,040	25,600
<i>Freight traffic</i>			
Million ton-kilometers . . . . .	65,670	47,414	67,580

These statistics indicate that in the year 1925-26 railway traffic was greater than before the war. The importation of rolling stock from abroad virtually ceased during the year, and 118 new locomotives built in Soviet plants were added to the system, along with 820 freight cars and 299 passenger cars. It was planned to build 350 new locomotives in 1927, and mass production of freight cars was being organized.

GOVERNMENT. A description of the constitution of the Union of Soviet Socialist Republics will be found in the YEAR BOOK for 1923. At the close of 1926, the Council of People's Commissars, the executive cabinet of the Soviet government, was composed as follows: Chairman of the Council of People's Commissars, Alexis I. Rykov; vice-chairmen of the council, A. D. Tsiurupa, J. E. Rudzutak, and V. V. Kuybyshev; commissar for army and navy, K. E. Voroshilov; for trade, A. I. Mikoyan; for foreign affairs, George Tchitcherine; for transportation, J. E. Rudzutak; for posts and telegraphs, I. N. Smirnov; for finance, N. P. Briukhanov; for labor, V. V. Schmidt; for peasants' and workers' inspection, G. K. Orjonikidze; chairman of Supreme Economic Council, V. V. Kuybyshev; Director of Central Statistical Administration, V. V. Obolensky (Ossinsky); Chairmen of the central executive committee of the Soviet Union, M. I. Kalin, G. I. Petrovsky, A. G. Cherviakov, Gazanfar Mussabekov, Netyrbay Aitakov, Faizulla Khodzhaev.

#### HISTORY

As noted in the preceding YEAR BOOK, the position of Stalin in Russian politics was considerably strengthened towards the close of 1925. His increase in power became more evident early in 1926 when L. B. Kamenev was

relieved of his position as vice-chairman of the council of people's commissars and was appointed people's commissar for foreign and domestic trade. Other changes were the relieving of G. Sokolnikov of his post as commissar of finances and the appointment of N. P. Briukhanov in his place, and the appointment of A. L. Sheinman to the position of chairman of the board of directors of the state bank. At the Communist International Conference which met at Moscow early in February, bitter attacks were made on American capitalism by Trotsky, who predicted that although the United States was the strongest capitalistic nation in the world it would not be immune from world revolution. Zinoviev, at the same conference, stated that crises were about to occur in several European countries, and he suggested the establishment of a federation of Socialist European states to fight the bulwark of capitalism in America.

The Russian Communists were, apparently, greatly disappointed by the early settlement of the general strike in Great Britain. A tremendous amount of money was collected in Russia to aid the cause of the British workmen, but it was officially refused by the British Labor Council. See GREAT BRITAIN, *History*. The relations between the two countries were severely strained for a time because of the evident desire of Russian labor to come to the financial aid of British labor.

DEATH OF DZERZHINSKY. On July 20 Russia was shocked to learn of the death of Felix E. Dzerzhinsky (q.v.), who had been one of the prime movers of the revolutionary period from the earliest days of its inception. When Lenin had instituted the changes in 1921 towards a capitalistic state, he placed Dzerzhinsky in charge of the supreme economic council. He had built up a reputation for himself, before this, as the head of the Cheka, the secret police of the Soviet government. On August 5 he was succeeded by Kuybyshev as head of the supreme economic council. The appointment of Kuybyshev left the control of Russian affairs in the hands of the so-called "big three," Stalin, Rykov, and Kuybyshev. Their position was considerably strengthened by the more or less forced retirement of Kamenev from the position to which he had been appointed at the beginning of the year. It was announced that he would spend his entire time preparing the biography of Lenin. His elimination marked the victory of Stalin and his semi-capitalistic theory of Communism over another of the extremists who bitterly fought any changes in the beliefs or practices of Sovietism. Those who were pushed aside by Stalin included Trotsky, Sokolnikov, Radek, Zinoviev, and Lashevich. Stalin believed in a gradual industrialization of the country by a policy of economy rather than by stripping the peasants and others of their property, as was advocated by his opponents.

THE EDDY REPORT. During August, a group of American business men and professional leaders made an exhaustive study of conditions as they existed in Russia. The report of this group was distinctly favorable to Soviet Russia. The members of the investigating committee were entirely unofficial in capacity and did not represent Socialist or Communist leanings. The report stated that there was no doubt about the stability of the Soviet government; in fact, it

stated that it was the most solid in Europe, its stability resting on the sagacity of the government, which although it made many errors, was quick to make changes necessary to make the Soviet experiment work. The report also gave glowing accounts of the economic progress of the régime, and stated that the welfare and social status of the people at large throughout the country had been greatly improved. The majority of the party favored recognition of the Bolshevik government by that of the United States. The argument was advanced that recognition of Russia by outside countries would weaken the power of the Third International, while failure to do so would merely tend to strengthen that body. Communistic propaganda, according to the report, could be more easily checked if Russian and foreign diplomats were exchanged and diplomatic pressure could be brought to bear against the Third International, which was not an official part of the Soviet government but was a body composed of representatives of 52 nations.

President Coolidge let it be known, through the press, that the Eddy report changed in no way his attitude toward recognition of Russia as enunciated in 1923, when he stated that the United States had no objections to private commercial dealings with Russia, but that it would not officially recognize a government that violated the sanctity of international obligations. After a very exciting session in Detroit, the American Federation of Labor, October 12, refused to adopt a resolution to recognize Russia, and, instead, adopted one which denounced the Soviet government "as the most unscrupulous, most anti-social, most menacing institution in the world to-day." The convention also rejected unanimously the proposal to send a labor delegation to Russia.

**SITUATION AT END OF YEAR.** The closing months of the year witnessed Stalin and his associates firmly entrenched in power. Trotsky and Zinoviev were reported as making conciliatory speeches in which they said that they had been opposed to the ideas of Stalin. The latter lost no time in meting out punishment. Trotsky and Zinoviev were virtually shorn of all power and positions in the party councils, and reduced to mere figureheads. Zinoviev was compelled to resign as chairman of the Communist International at its seventh session, which was held in Moscow in November.

**RUST, WHEAT.** See BOTANY, under *Plant Diseases*.

**RUTGERS UNIVERSITY.** A non-sectarian institution of higher education at New Brunswick, N. J.; founded under the name of Queen's College, in 1776. The university consists of the following colleges: Arts and sciences, engineering, agriculture, school of education, college for women. The registration for the fall term of 1926 was 1924, of whom 884 were women registered at the Women's College. The 1926 summer session had an enrollment of 1120. There were 148 members on the faculty, 88 of whom were instructors and 60 professors. The endowment funds, etc., amounted to \$1,800,000, and the income for the year to \$870,000. The library contained 135,000 volumes. President, John M. Thomas, D.D., Litt.D., LL.D.

**RYE.** The world's rye production in 1926, as indicated by estimates published by the International Institute of Agriculture, Rome, was

nearly 15 per cent below the production of 1925. The estimates for 1926 did not include the Soviet Republics, which reported a yield of 767,593,700 bushels in the preceding year. The estimated yields of the leading rye-growing countries in 1926 were reported as follows, in bushels: Germany, 295,097,900; Poland, 206,078,300; Czecho-Slovakia, 49,712,400; France, 33,310,000; Hungary, 30,015,300; Spain, 27,090,400; and Sweden, 23,542,000. Argentina, the leading rye country of South America, produced 4,733,300 bushels in the crop year 1925-26. The rye acreage for the different countries reporting was up to the average, and only about 2½ per cent under the acreage of the preceding year. Canada produced only 12,018,000 bushels as against 13,688,500 in 1925, with 20,423,500 as the average for the five-year period ending with 1924. The rye crop of the United States in 1926, according to estimates published by the Department of Agriculture, amounted to 40,024,000 bushels, the area to 3,513,000 acres, and the average yield to 11.4 bushels per acre. In 1925 the corresponding figures were 46,456,000 bushels, 3,974,000 acres and 11.7 bushels per acre.

Beginning with 1922, a progressive reduction of the rye acreage of the United States has taken place. The average farm price Dec. 1, 1926, was 83.5 cents per bushel, and on Dec. 1, 1925, 78.2 cents per bushel. Calculated at these bushel prices, the crop of 1926 was valued at \$33,416,000 and the crop of 1925 at \$36,340,000. The yields of the leading rye-producing States in 1926 were reported as follows, in bushels: North Dakota, 9,287,000; Minnesota, 4,954,000; Wisconsin, 3,840,000; Michigan, 2,686,000; Nebraska, 2,608,000; and Indiana, 2,102,000. Only five other States—Pennsylvania, North Carolina, Montana, Illinois and Colorado, given in decreasing order of yield—produced more than 1,000,000 bushels each. North Dakota led in acreage with 1,222,000 acres, followed by Minnesota with 367,000 acres. The average farm price per bushel in the different States ranged, on Dec. 1, 1926, from 67 cents in Wyoming to \$1.75 in South Carolina. For the year ended June 30, 1926, the United States exported 12,505,000 bushels of rye and 24,000 barrels of rye flour as compared with 49,909,000 bushels and 55,000 barrels during the preceding fiscal year. The foregoing information is taken from Wheat and Rye Statistics, *United States Department of Agriculture Statistical Bul. No. 12*, Washington, 1926.

**SAAR BASIN.** *zür.* According to Article 45 of the Treaty of Versailles, this section of Germany was awarded to France for the purpose of exclusive exploitation of the coal fields, in compensation for the destruction of the coal fields in northern France by the German armies. The treaty provided that for 15 years the Saar Basin should be governed by a commission of five appointed by the League of Nations, and that after that period the population should decide on one of three courses; namely, the administration set up by the treaty, union with France, or union with Germany. Area, 751 square miles; population, about 657,870.

**SACKETT, WILLIAM EDGAR.** American editor, died at East Orange, N. J., November 18. He was born in New York, May 23, 1848, and was educated at the Anthon School and at the New York Free Academy (later the College of the City of New York). From 1865 to 1868 he

studied in the law office of Chester A. Arthur, later President of the United States. Journalistic work appealed to him, and in 1874 he took charge of the New Jersey bureau of the *New York Times*, in which position he remained eight years. He then established in Jersey City the *Sunday Morning News*, later converted into the *Jersey City Daily News*. This connection, however, lasted but one year, and in 1885 he became New Jersey editor of the *New York Herald*. In 1896, however, he resigned this position and went to Washington as a political reporter. During the war with Spain he was on the *Herald* staff, and at the conclusion of hostilities acted for two years as secretary of the United States Industrial Commission. After 1908, he devoted himself to studies in political history and to writing special articles on public affairs. In 1920 he rejoined the staff of the *New York Times* and remained a member until his death. He published *Modern Battles of Trenton*, and *How Wilson Became President*, a work which shows clearly how intimately he was concerned with the political world and struggles of his time. The work, *New Jersey's First Citizen*, published in 1917, was edited by Mr. Sackett.

**SAFETY, INDUSTRIAL.** See NATIONAL SAFETY COUNCIL.

**SAFETY AT SEA.** The United States Steamboat Inspection Service of the Department of Commerce, for the fiscal year ended June 30, 1926, reported a total of 314 accidents resulting in the loss of 368 lives, of which 103 were those of passengers. Of the losses, 212 were fairly chargeable to accidents, collisions, foundering, and so forth, or an increase of 58 in the number of lives lost as compared with the previous fiscal year. Passengers to the number of 350,370,065 were carried on vessels required by law to make report of the number of passengers transported, so that it would appear that 3,401,651 passengers were carried for each passenger lost. The number of lives directly saved by means of the life-saving appliances required by law was 752.

The Steamboat Inspection Service inspected and certificated during the fiscal year 7377 vessels with a total gross tonnage of 15,016,556, of which 7055 were domestic vessels with a gross tonnage of 11,619,240, and 322 foreign passenger vessels with a gross tonnage of 3,397,316. Of the domestic vessels there were 5581 steam vessels, 950 motor vessels, 18 passenger barges, and 506 seagoing barges. There was a decrease of 34 in the total number of vessels inspected, and an increase of 472,403 in the total gross tonnage of vessels inspected as compared with the previous fiscal year. There were 1000 cargo vessels examined to carry persons in addition to crew under the act of Congress approved June 5, 1920. Letters of approval of designs of boilers, engines, and other operating machinery were granted to 20 steam vessels, with a total gross tonnage of 707. There were inspected for the United States Government 73 hulls of vessels and 2009 boilers. There were 2575 reinspections of steam vessels, motor vessels and barges, the report states.

The following disasters during the fiscal year resulted in an unusually large loss of life:

Aug. 18, 1925. The boiler of the steamer *Mackinac*, of 515 gross tons, exploded off Codding Point, Newport, R. I., at 6 P. M. There were 677 excursionists on board. Fifty-three

lives were lost and about 100 persons injured.

Nov. 5, 1925. The barge *J. L. Crane* broke adrift from the steamer *Herman H. Hettler* during a northwest gale and high seas, when near Crisp Point, Lake Superior, and, with its crew of seven, was lost.

Nov. 15, 1925. The towing steamer *Barryton*, of 418 gross tons, en route from Cleveland, Ohio, to Buffalo, N. Y., with four barges in tow, encountered a heavy gale, which broke up the tow, and the canal barges *Anna O'Connor*, *Jerry B. Petrie*, and *Sherman V. Petrie*, which became separated from the tow, were wrecked on Buffalo breakwater, with a loss of four lives.

Nov. 29, 1925. The steamship *Ootopawi*, of 2351 gross tons, sailed from Charleston, S. C., for Havana, Cuba, with a cargo of coal. Was last heard from on November 30, and is supposed to have been lost with all hands on board in the storm that was raging on the Atlantic coast between Nov. 30 and Dec. 5, 1925. Thirty-two men were on the vessel.

Jan. 8, 1926. The towing steamer *Goliah*, while bound from Norfolk, Va., to New York, towing barges *Ormond*, *T. J. Hooper*, and *Sherwood*, loaded with coal, became separated from the barges, and stood offshore for safety. The barges anchored. When the tug returned to the barges it was found that the barges *Ormond* and *T. J. Hooper* had sunk. There were four persons on each barge that sank, who were drowned, making a total of eight persons lost.

Jan. 28-29, 1926. The barges *Bronx No. 1* and *Severan*, while being towed by the steamer *W. F. Mattich* from Morehead City, N. C., to Georgetown, S. C., were sunk during a storm while between 3 and 4 miles southeast of Frying Pan Lightship. Four lives were lost.

Feb. 1, 1926. The steamer *Battleboro*, of 426 gross tons, left Hampton Roads bound for New York with the barges *Absecon*, *Henlopen*, and *Searsport* in tow. At 5 A. M., in a gale and snowstorm, hawser between tug and head barge parted. Tug headed for sea and returned to barges. The *Absecon* and *Henlopen* anchored at Barnegat gas buoy and were found abandoned. The tug *Liberty* towed the *Henlopen* to New York, and the *Battleboro* towed the *Absecon* to New York. The *Searsport* was not found and is supposed to have foundered, and the crew of four men was lost.

Feb. 3, 1926. The towing steamer *Georges Creek* from Newport News, Va., to Boston, Mass., encountered heavy weather northeast of Brigantine Buoy, N. J., and was compelled to cast off the tow and put to sea. When the wind changed the tug made every effort to pick up the barges but without success. The barges, three in number, had a crew of three men each. Two were rescued by the Coast Guard and the remaining seven lost their lives.

Apr. 8, 1926. The steamer *O. T. Waring*, of 5579 gross tons, while lying at Jahneke's dry dock, New Orleans, La., exploded, took fire, and eight lives were lost and 42 men were injured.

Apr. 11, 1926. The motor ship *Gulf of Venezuela*, of 6661 gross tons, while lying at the dock of Gulf Refining Co., Port Arthur, Tex., and taking on a cargo of high-test gasoline, experienced an explosion of gasoline, which swept the vessel and destroyed the superstructure, resulting in the death of 31 members of the crew.

In addition to the disasters recorded by the

United States Steamboat Inspection Service, there were a number of serious wrecks or catastrophes during the year, of which the following are worthy of notice:

Jan. 26, 1926. The British freight steamer *Antinoe* was lost in a storm in the North Atlantic, after the American liner *President Roosevelt* had taken off her crew in four days of rescue work, losing two men and five boats in the effort.

Jan. 27, 1926. The British freighter *Laristan* sank in the same storm in the North Atlantic, 24 of her crew being lost and six rescued by the *Bremen*.

Mar. 10, 1926. Fire occurred on the liner *America* while at her dock at Newport News, causing damage estimated at \$2,000,000.

Mar. 13, 1926. The American freighter *Suduffoo* left Port Newark for the Pacific Coast with a crew of 28, and was never heard from.

Mar. 22, 1926. The Brazilian steamer *Pas de Carvalho* took fire and blew up on the Solimoes River, near Manaus, resulting in the loss of 38 lives.

Apr. 27, 1926. The passenger steamer *Chichibu* grounded in a storm off Horomushiro, Japan, and 230 lives were lost.

Aug. 28, 1926. The passenger steamboat *Buryvestnik* crashed into a river pier near Cronstadt, Russia, and sank, causing the death of 300.

Oct. 22, 1926. The British sloop of war *Valerian* sank in a hurricane off the Bermuda coast, when bound to Bermuda from the Bahamas. It was said that if the ship had been able to obtain sufficient coal to put on speed, she could have reached Bermuda before the storm broke. About 80 lives were lost, and 18 were saved, after a day and night on rafts, by the *Capetown*.

Dec. 25, 1926. The French barque *Eugène Schneider* sank when it was struck amidships by the British steamer *Buruta* in the English Channel, and 24 of its crew of 28 were lost.

**ST. CHRISTOPHER** or **ST. KITTS**. See **LESWARD ISLANDS**.

**ST. DAVIDS**, BISHOP OF. See **OWEN**, RT. REV. JOHN.

**ST. HELENA**. An island of volcanic origin in the South Atlantic, about 1200 miles from the west coast of Africa, and belonging to Great Britain. Area, 47 square miles; population, according to the census of 1921, 3747; estimated civil population, Dec. 31, 1924, 3703. Capital and seaport, Jamestown. The chief occupation is the fibre industry, and fibre and tow are the principal exports. In 1924 the exports were valued at £36,160 and the imports at £51,421; revenue £12,699, expenditure, £14,182; there is no public debt. A detachment of the Royal Marine Artillery is stationed on the island, which is also a coaling station for the British Navy. Governor in 1926, C. H. Harper.

**ST. JOHN'S COLLEGE**. A college of liberal arts and sciences at Annapolis, Maryland; founded in 1696. The enrollment for the fall term of 1926 was 172, and the number on the faculty was 25. The endowment funds amounted to \$122,300, and the yearly income to \$124,931.77. The College grants the A.B. degree only. Freshmen were given orientation courses in literature and the social sciences. The R.O.-T.C. unit was discontinued during 1926. The

library contained 14,102 volumes. President, Enoch Barton Garey, LL.D.

**ST. LAWRENCE UNIVERSITY**. A coeducational institution of higher education at Canton, N. Y.; founded in 1856. The registration for the fall term of 1926 was 2938, distributed as follows: College of letters and science, 595; theological school, 27; law school, 2244; school of agriculture, 72. The faculty numbered 97, divided among the several schools as follows: Letters and science, 34, 3 of whom were additions during 1926; theological, 4; law, 30; agriculture, 14; special lecturers, 15. The college endowment fund was \$1,741,011.23, and the income for the year \$155,985.86. The library contained 52,000 volumes. New buildings erected during the year were Gunnison Memorial Chapel, Hepburn Hall of Chemistry, Brewer Field House, and Gaines Out-door Theatre. A central heating plant was installed and a women's dormitory begun. President, Richard Eddy Sykes, D.D.

**ST. LUCIA**, loo'shi-ä. A British insular colony in the Windward group of the West Indies. Area, 233 square miles; population in 1924, 54,304. Castries, the chief port and capital, is a naval base and coaling station. The movement of population in 1924 was: Births, 2061; deaths, 1282; marriages, 238. On Dec. 31, 1924, there were 42 Roman Catholic and 7 Protestant schools, with 7611 pupils enrolled. The chief products are cacao, sugar, lime juice, lime oil, bay oil, honey, hides, logwood, rum, fuel, molasses, and syrup. Imports in 1924 were valued at £234,647; exports, at £233,965. Of the imports the largest share came from the United States and of the exports the largest share went to Great Britain. The total shipping in the same year was 966,113 tons, of which 738,171 tons were British. Revenue in 1924, £72,888; expenditure, £89,990; public debt, £143,530. The island is under an administrator aided by a nominated executive and a partly nominated and partly elected Legislative Council. Administrator in 1926, Lieut-Col. W. B. Davidson-Houston.

**ST. PIERRE AND MIQUELON**, më-ke-lôn'. Two small groups of islands belonging to France, close to the northern coast of Newfoundland, and named from their two largest islands. Area of the St. Pierre group, 10 square miles; population in 1921, 3419; area of the Miquelon group, 83 square miles; population in 1921, 499. The islands are rocky and unsuited to agriculture, their main importance being as a centre for the cod-fishing industry. The chief town is St. Pierre, which has regular steamship communication with North Sydney and Halifax. In 1924 the imports totaled 149,075,555 francs; the exports, 142,804,699 francs. The imports consisted chiefly of textiles, salt, wines, foodstuffs, and meat; the exports, cod, dried and fresh, and fish products. The local budget for 1925 was: Revenue, 10,549,610 francs; expenditure, 10,058,735 francs. The islands are under a governor aided by consultative and municipal councils.

**ST. THOMAS**. See **SÃO THOMÉ AND PRINCEPE**.

**ST. VINCENT**. A British insular colony in the Windward group of the West Indies. Area, 150.3 square miles; population in 1924, 47,591. Kingstown, with a population of 3836 in 1921, is the capital. The movement of population in 1924 was: Births, 1795; deaths, 785; marriages, 114. In the same year there were 27 primary

schools with an average attendance of 2639. The chief products are arrowroot, sugar, cotton, rum, cacao and spice; cotton (Sea Island) being especially important and regarded as the best grown in the British Empire. Although much of the cultivated land is still held by large proprietors, a large number of small holdings under peasant proprietors have lately been established under the auspices of the government. In 1924 the imports were valued at £160,028; exports £150,862; revenue, £60,893; expenditure, £53,887; public debt, £10,850; total shipping, 476,434 tons. One-half of the Grenadine islands are under the administration of the island of St. Vincent and the other half under Grenada (q.v.). At the head of the administration is an administrator and colonial secretary, who is aided by a legislative council consisting of official, elected, and nominated members. Administrator in 1920, R. Walter.

**SAKHALIN**, sã'kã-lyen'. An island off the eastern coast of Siberia, separated from Japan by the narrow strait of Soya. The portion south of the 50th parallel of N. latitude belongs to Japan; north of that line lies the province of Sakhalin, belonging to Russia. Japanese Sakhalin, or Karafuto (q.v.), has an area of about 13,934 square miles and had an estimated population in 1924 of 169,300. The area of the Russian province is 14,688 square miles, with a population estimated at 34,000 in 1915. The northern half is covered with forests to the extent of 80 per cent of the entire area. A small portion of the northern area is not fitted for the growth of trees because of the climate. Most of the trees are pines suitable for building lumber, which is transported by rafting.

**SALEM, MASS., ANNIVERSARY.** See CELEBRATIONS.

**SALVADOR**, sãl'vã-dör'. A Central American republic, situated to the east of Guatemala on the Pacific coast. Capital, San Salvador.

**AREA, POPULATION, ETC.** The area is estimated at 13,176 square miles; the population on Jan. 1, 1924, was estimated at 1,580,000. The mestizos or mixed races numbered 1,184,000 and the Indians 316,000. San Salvador had a population of 84,315 at the census of 1923. Other large towns with their populations at the same time are: Santa Ana, 72,285; San Miguel, 35,546; Santa Tecla, 27,279; San Vicente, 31,927; and Sonsonate, 16,283. In 1924 there were 60,591 births and 33,047 deaths. Education is free and compulsory. According to the president's message, in 1925 there were 826 schools giving primary instruction, employing 1465 teachers. The enrollment was 49,749 and the average attendance 33,875. A comparison of these statistics with those of the previous year shows an increase of 93 schools, 332 teachers, 4570 pupils enrolled and 3801 in average attendance. There are also secondary schools and a National University with faculties in jurisprudence, medicine, pharmacy, dentistry, and engineering.

**PRODUCTION.** The principal occupation of the country is agriculture, and coffee is the chief crop. Other agricultural crops are cacao, rubber, tobacco, sugar, and cotton. The mineral wealth of the republic includes gold, silver, copper, iron and mercury.

**COMMERCE.** Salvador's total exportation for the year 1925 was valued at \$16,900,000, as compared with \$24,300,000 in 1924, while the total importation was \$16,600,000, as compared

with \$11,000,000 in 1924. Although the balance of trade was not so satisfactory as in some previous years, it still remained favorable by approximately \$300,000. The decrease in exports may be accounted for by the small coffee crop harvested, coffee comprising about 90 per cent of Salvador's exports. The exports from Salvador to the United States were estimated to have fallen off 40 per cent in 1925 as compared with the previous year. Imports from the United States increased by approximately 40 per cent, owing largely to shipments of construction materials, railway equipment, and building supplies.

#### SALVADOR'S EXPORTS BY COMMODITIES

Product	1923 Kilos	1924 Kilos	1925 Kilos
Coffee .....	41,994,124	48,808,831	32,068,920
Cottonseed .....	.....	5,079	8,427,045
Sugar .....	9,228,818	5,446,691	2,532,951
Raw cotton .....	51,055	408,428	2,313,002
Henequen .....	549,032	451,749	435,490
Beans (frijoles) ..	46,811	15,335	196,622
Indigo .....	84,471	106,600	69,718
Balsam .....	45,236	54,927	47,001
Hides and skins ..	206,655	65,534	29,038
Palm hats .....	9,997	10,171	12,174
Rubber .....	940	.....	800
Rice .....	47,016	19,619	55
All others .....	307,687	459,432	356,307
Total .....	52,566,642	55,847,396	41,489,123

**FINANCE.** Estimates of Salvador's revenues for 1925-26 were higher than they have ever been before, and were calculated at 18,205,860 colones, as compared with 16,464,024 colones for the fiscal year 1924-25. Expenditures as provided in the budget totaled 18,166,714 colones, against 16,414,032 colones in the previous year.

**COMMUNICATIONS.** In 1924, 576 steamers with a tonnage of 1,117,707 entered at the ports of Salvador. In the summer it was reported that the connection of Salvador with Guatemala by the International Railways of Central America had progressed considerably. On the San Salvador-Teixistepeque line, a total distance of about 57 miles, about 35 miles of track had been laid, and it was expected that the line would be completed by September, 1926. On the Santa Ana-Ahuachapan line (27 miles long) 50 per cent of the work had been completed, and it was estimated that the work would be completed by the end of February, 1927. On the Santa Ana-Guatemalan border line, via Teixistepeque, 38 miles long, 60 per cent of the work had been finished and it was estimated that it would be entirely completed by June, 1927.

**GOVERNMENT.** Under the constitution, executive power is vested in a president elected for four years, who acts through a ministry of four members; and legislative power in a congress of 42 members elected for one year by universal suffrage. President, Dr. Alfonso Quinonez Molina (assumed office, Mar. 1, 1923).

**HISTORY.** On February 22, a treaty of friendship, commerce, and consular rights was signed between Salvador and the United States. On May 19 the president of the republic approved the legislative decree of May 8 calling for a constitutional assembly for the purpose of amending the constitution of 1886.

**SALVATION ARMY.** An international organization with headquarters in London, England, whose purpose is the "salvation of mankind from all forms of moral, spiritual, and

temporal distress." The movement was organized in 1865 by William Booth, a minister of the English "New Connection Methodists." In 1881 it spread to the United States, and was incorporated in New York in 1899. Its creed is in general Arminian, but it gives little attention to the discussion of doctrinal differences, being more actively concerned in philanthropic endeavor. The organization of its government is military in character (in 1926 it was under the command of General Bramwell Booth), although each country has its own organization under the direction of a commissioner, and each local corps is under the command of a captain and a lieutenant. The Army in the United States is divided into four territories, with headquarters at New York, Chicago, San Francisco, and Atlanta, the last named having been organized during 1926. Each territory maintains a training college for men and women at its headquarters. Each of the territories issues a weekly periodical, the *War Cry*, the new *Southern War Cry* having started during the year. The Army also conducts extensive welfare work for children at many institutions throughout the United States, particularly at the Lytton Springs Orphanage and Industrial Farm in California. In 1926 there were 4614 officers and cadets; 47,753 senior soldiers; 27,033 junior soldiers; 2903 recruits, or a total membership of 82,303. Converts during 1925 totaled 120,388. Field statistics give 1955 corps and outposts; 4614 officers and cadets; 22,400 local officers and bandsmen. There were 15 hospitals and dispensaries conducted by the Army, which during the year rendered service to over 46,988 patients. Other institutions included 106 industrial homes; 97 free employment bureaus; 9 children's homes; 33 homes and maternity hospitals; and 71 hotels and 12 women's boarding homes.

Valuable work was conducted by Army workers in the prisons; there were 7455 prisoners assisted upon discharge, and 491 paroled to the Army. The following statistics for 1926 indicate the general nature and scope of the relief work carried on by the organization: Christmas dinners (1925), 398,162; persons afforded temporary relief outside Industrial Homes and Hotels, 2,118,042; mothers given summer outings, 9649; children given summer outings, 46,982; pounds of ice distributed 187,101; pounds of coal distributed, 3,002,833. There were 509,949 indoor meetings held during the year 1925 and 222,544 open air meetings; the total attendance was reported as 43,380,485. Similar activities are carried on by the Salvation Army in 81 countries and colonies. The National Headquarters is at 122 West 14th Street, New York, and Commander Evangeline Booth is the National Leader. The American Territorial Commissioners are: Richard E. Holz (Eastern), John McMillan (Central), Adam Gifford (Western), and William McIntyre (Southern).

**SALZBURG.** A province of the Austrian republic; before the war a crownland of the Austro-Hungarian Empire. Area, 2762 square miles; population, according to the census of 1923, 223,023. Capital, Salzburg, with a population in 1923 of 37,856.

**SAMOA.** A group of 14 islands in the Pacific Ocean, between 13° and 15° S. latitude and 168° and 173° W. longitude, about 2000 miles south of Hawaii and 4000 miles southwest of San Francisco. Since Feb. 13, 1900, the islands

east of 171° W. longitude have belonged to the United States; and the islands west of that line belonged to Germany until the outbreak of the war in 1914, when they were occupied by the British and later turned over to New Zealand for administration, under a mandate of the League of Nations.

The official name applied to the former German Samoan Islands is Western Samoa. This territory includes Savaii and Upolu, two of the largest islands, and Apolima and Manono. Area of Savaii, about 660 square miles; Upolu, 550 to 600 square miles. The principal port is Apia, on the island of Upolu. Population, March, 1925, 38,230, of whom 2176 were Europeans and half-castes, and 752 coolie laborers. About 13,000 pupils are instructed in schools conducted by the government and various missionary groups. The products include copra (the chief product), cacao, rubber, sugar, and cardamoms. The imports for 1924 were valued at £274,803; exports £361,418. The principal source of imports was Australia and the chief destination of exports was Great Britain. In the same year 81 vessels of 103,122 tons entered and cleared at the port of Apia. The revenue collected for the year ended Mar. 31, 1925, was £130,914; expenditure, £135,523. The general control of the islands is under the New Zealand ministry, and the local government is under an administrator. Administrator at the beginning of 1926, Maj.-Gen. Sir George Richardson.

Tutuila, Tau, and the Manua group comprise the American Samoan group of islands. The total area of the islands is about 58 square miles; and the population, according to the census of 1922, is 6125. The principal port is Pago-Pago, at the extreme end of the bay of the same name on the island of Tutuila, the best and safest harbor in the South Seas. The soil is very fertile. There is an abundance of copra, which is the only article exported, and a variety of fruits, including oranges, limes, bananas, mangoes, and alligator pears. The United States Navy has established a high-powered radio station on the island of Tutuila, which is in daily communication with the islands of the Pacific and the United States. The government is in the hands of the Governor of the United States Naval Station at Pago-Pago. The islands are divided into three general administrative districts, corresponding to the former political divisions of Samoa, each administered by a native governor who is appointed by the governor of all the islands. At the head of each village is a chief, elected annually, subject to the Governor's approval. Governor at the beginning of the year, Capt. E. S. Kellogg, U.S.N.

**SAMOS.** An island in the Aegean Sea, belonging to Greece. Area, about 181 square miles; population, according to the census of 1920 and that of the refugees made in 1923, 84,204. Capital, Vathy, with a population of 12,472. The island was acquired from Turkey as a result of the Balkan War of 1912-13.

**SANDERSON, OSWALD.** British shipping man, died at Leeds, Eng., December 26. He was born in England in 1863, and from his earliest years was interested in shipping. For many years Mr. Sanderson was senior member of the firm of Sanderson & Son, steamship agents, of New York City, the company having been founded by his father. He left New York in 1900 to assume the position of managing director of

the Ellerman-Wilson Line, with its headquarters at Hull, England. He was a member of several boards of directors, including those of the Suez Canal Company, Lloyds Bank, Ltd., London, the North British and Mercantile Insurance Co., Earle Shipbuilding and Engineering Co., Ltd., and Wilson's and North Eastern Railway Shipping Co., Hull. He was also an enthusiastic yachtsman. He was honorary colonel of the East Yorkshire Regiment, and also of the Northumbrian Brigade of the Royal Field Artillery.

**SAN FRANCISCO, CALIFORNIA, ANNIVERSARY OF.** See CELEBRATIONS.

**SANGER, JOSEPH PRENTICE.** American soldier, died on March 15. He was born at Detroit, Mich., on May 4, 1840. He was a student at the University of Michigan from 1858-60. On May 1, 1861, he was commissioned Second Lieutenant in the First Michigan Infantry. He entered the regular army Aug. 5, 1861, and advanced through the different grades to the rank of brigadier general in July, 1902. During the Civil War he was twice breveted for gallantry. He was admitted to the bar in 1874, and was Director of the Census for Cuba, Porto Rico, and the Philippine Islands during 1899-1903. He served as a member of the Brownsville Court of Inquiry 1908-9, and in 1916 was appointed a member of the Medal of Honor board. In 1898-9 he was Brigadier General in the United States Volunteers. In 1904 he retired from active service in the regular army with the rank of Major-General.

**SÄNGERFESTS.** See MUSIC.

**SANITATION.** See GARBAGE AND REFUSE DISPOSAL; SEWERAGE AND SEWAGE TREATMENT; WATER-WORKS AND PURIFICATION.

**SAN MARINO, mã-ré'nó.** A republic of Europe, located in the peninsula of Italy. Area, 38 square miles; population, in June, 1920, 12,027. The chief exports are wine, cattle, and the building stone quarried on Mount Titano. The revenue and expenditure for 1924-25 balanced at 3,629,389 lire. There is no public debt. Politically and economically San Marino is closely allied with Italy.

**SANSKRIT.** See PHILOLOGY, MODERN.

**SANTO DOMINGO.** See DOMINICAN REPUBLIC.

**SÃO THOMÉ, soun tō-mă', AND PRINCIPE, prên-thē-pā.** Two islands in the Gulf of Guinea, about 125 miles from the coast of Africa, and belonging to Portugal. Area, 360 square miles; population, according to latest available statistics, 58,907 for São Thomé and 4938 for Principe. The islands are hilly, with volcanic soil, but the land is fertile and the products are varied. Cacao, cinchona, coffee, and rubber are the chief products. The revenue and expenditure for 1924-25 balanced at 8,274,692 escudos. Imports for 1924 were 38,894,176 escudos, and exports 96,720,981 escudos.

**SARAWAK, sh-rá'wák.** An independent state, comprising the northwestern part of the island of Borneo, under the protection of Great Britain. Area, about 42,000 square miles (coast line 400 miles). Population estimated at about 600,000, made up of Malays, Dyaks, Kayans, other Polynesian tribes, Chinese, etc. Kuching is the capital, with a population of about 25,000. There are large resources of coal, and recently an oil field has been opened up in the Baram region. The chief exports are benzine,

plantation rubber, and sago flour. The imports in 1924 were valued at £2,218,520; exports £3,976,622. The trade is chiefly with Singapore. The revenue in 1924 was £481,280; expenditure, £364,214. There is no public debt. The administration of the region was acquired by Sir James Brooke in 1842 from the Sultan of Brunei; it was governed by him under British protection. On his death in 1917 he was succeeded by his son, Sir Charles Vyner Brooke, who is the present rajah. British supervision is exercised by the British agent for Sarawak and British North Borneo.

**SASKATCHEWAN.** A Prairie Province of Canada, situated between Alberta on the west and Manitoba on the east, extending northward from Montana and North Dakota to the Northwest Territories. Area, 251,700 square miles; population, according to the census of 1920, 821,042, a gain of 63,532 over 1921. Capital, Regina, with a population in 1928, of 37,329. Other cities are: Saskatoon, 32,234, a gain of 25 per cent over 1921; Moosejaw, 19,200 in 1921; Prince Albert, 7550 in 1921. Of the total population in 1921, 538,552 were living in rural communities. In 1924 there were 197,209 pupils and 5948 teachers in the 4625 public elementary schools, and 16,014 pupils in the secondary schools. The total area under cultivation in 1924 was 26,622,582 acres, and the value of agricultural products was \$238,096,000. The acreage and estimated yield of the principal crops in 1925 was as follows: Wheat, 13,002,741 acres, 240,551,000 bushels; oats, 5,071,507 acres, 174,967,000 bushels; barley, 1,065,398 acres, 27,061,000 bushels; rye, 269,768 acres, 4,572,000 bushels; flax, 953,776 acres, 7,439,000 bushels; mixed grains, 30,077 acres, 902,000 bushels; other grains, 2500 acres, 48,000 bushels; potatoes, 45,000 acres, 3,623,000 cwt.; roots, 4876 acres, 417,000 cwt.; hay and clover, 380,500 acres, 635,000 tons; alfalfa, 5417 acres, 13,000 tons; fodder corn, 54,111 acres, 260,000 tons. Total exports in 1924-25 amounted to \$10,036,803; total imports \$9,866,108. In 1924 there were 6538 miles of steam railway in operation. The government is under a lieutenant-governor appointed by the governor-general of the Dominion of Canada, and a legislative assembly of 63 members elected for five years by universal suffrage. Women not only have the right to vote but are eligible for seats in the legislature. Lieutenant-governor, H. W. Newlands; premier, treasurer, and minister of railways, J. G. Gardiner; public works and telephones, A. P. McNab; education, S. J. Latta; agriculture and municipal affairs, C. M. Hamilton; attorney-general, J. A. Cross; highways, labor and industries, J. G. Gardiner; secretary and public health, J. M. Uhrich.

**SAULT STE. MARIE, CANALS AT.** In 1926 20,898 vessels passed through the United States and the Canadian Canals at Sault Ste. Marie, Michigan and Ontario, having a total registered tonnage of 71,290,862 tons as compared with 20,650 vessels of 69,239,520 tons in 1925. Through the United States Canal there were 17,548 vessel passages with a registered tonnage of 60,328,858, and through the Canadian Canal 3350 passages with a tonnage of 4,962,004. The total freight passing through the canals aggregated 85,679,087 short tons, of which 69,530,056 was east bound and 16,149,031 west bound. Iron ore to the amount of



57,549,699 tons, which was carried through the United States Canal, was the leading item of freight east bound, though 271,997,488 bushels of wheat and 100,269,792 bushels of other grain and 9,797,310 barrels of flour were included in the cargoes in this direction. West bound soft coal to the amount of 12,955,388 short tons and hard coal to the amount of 1,483,713 short tons were the leading cargoes, followed by merchandise of 620,607 tons, stone 543,653 tons, and oil 252,917 tons.

Before the canals closed for navigation there was the greatest ice blockade recorded in the history of Great Lakes navigation. This was only broken by the efforts of three powerful tugs and the car ferry, *Sainte Marie*, which released the shipping that had been held up above the lock. More than 100 east bound grain carriers were caught in this blockade and a number of the vessels had exhausted their fuel supplies and were held up until the milder weather intervened.

**SAVINGS BANKS.** See STATE BANKS; NATIONAL BANKS.

**SAXONY.** The name Saxony is applied to three divisions of the former German Empire; the Republic of Saxony (formerly the Kingdom of Saxony); the Grand Duchy of Saxony (now a part of Thuringia); and the Province of Saxony in Prussia.

**REPUBLIC OF SAXONY.** The third largest state of the German republic; proclaimed a republic on Nov. 9, 1918. Area, 5787 square miles; population, according to the census of 1925, 4,970,301. The capital, Dresden, had a population in 1925 of 608,025. The largest city is Leipzig, with a population of 660,140. The other cities with over 100,000 in 1925 were Chemnitz, 323,153, and Plauen, 109,953. In 1924 the movement of population was: Births, 86,662; deaths, 54,825; marriages, 36,376. The latest available school statistics showed 3547 common and continuation schools with a total attendance of 833,269 pupils. In proportion to its size, Saxony is the leading state in German industry, and rivals the chief industrial provinces of Prussia. In 1924 the area under cultivation was 2,319,590 acres. The area under the principal crops with their yields in metric tons was: Wheat, 174,375 acres, 188,100 tons; rye, 424,486 acres, 361,257 tons; barley, 70,444 acres, 66,600 tons; oats, 382,174 acres, 342,095 tons; potatoes, 253,368 acres, 1,760,931 tons; meadow, 453,630 acres, 729,376 tons of hay. The livestock census taken at the end of the same year showed 168,334 horses, 704,507 cattle, 621,399 pigs, 285,529 goats, and 102,681 sheep. The chief industry is textile manufacturing, but mining and metal-working are also of importance. In 1924, 3,817,000 tons of coal and 8,963,000 tons of lignite were produced, the combined value being 97,800,000 gold marks. The ordinary budget for 1925-26 balanced at £15,462,902 and the extraordinary budget at £926,628. The constitution of the republic is dated Oct. 26, 1920. The diet was elected on Nov. 5, 1924, and is composed of the following parties: Socialists, 41; Democrats, 8; German National Party, 19; German People's Party, 19; and Communists, 9. Prime Minister (appointed in February, 1924), Herr Heldt, of the Socialist Party.

**GRAND DUCHY OF SAXONY or SAXE-WEIMAR.** A former constituent state of the German Em-

pire; proclaimed a republic in November, 1918, but united at the end of that year with Thuringia (q.v.). Area, 1397 square miles; population in 1919, 433,959.

**SAXONY IN PRUSSIA.** A province of Prussia. Area, 9758 square miles; population in 1925, 3,281,293.

**SCABIES IN SHEEP AND CATTLE.** See VETERINARY MEDICINE.

**SCANDINAVIAN LITERATURE.** This review includes the late books of 1925 as well as those of 1926, and, as usual, is divided into Danish, Norwegian and Swedish literatures.

**DANISH. Poetry.** In *Limfjords Sange* (The Songs of Limfjord) Thøger Larsen shows great skill in handling old verse forms. The collection includes translations from Poe and Sappho. Johannes V. Jensen's *Aarets Højtider* (The Feasts of the Year) is written partly in verse and partly in prose. In spite of the author's self-concealment, the poems have a lyric quality. They remind us of Oehlenschläger. In *Elskovsgaver* (Love's Gifts), Tom Smith shows a strong desire for formal beauty; some of the poems have high technical perfection.

**Fiction.** In Alexander Svedstrup's *Erik Gudmand*, we see a small world which mirrors the larger one. Johannes Buchholtz wrote *Under det gyldne Træ* (Under the Golden Tree). In the earlier part of the book we miss the author's usual control over characters and situations. Olof Linck's *En Sommer blandt Sioux-indianerne* (A Summer among the Sioux Indians), shows a first-hand knowledge of the people portrayed. Einar Christiansen turned from his usual field, the drama. The theme of his novel *Ottilie* is the discrepancy between expectation and realization. Sven Lange's *De første Kampe* (The First Conflicts) gives a picture of modern historical situations. Some of the characters in the story are given fictitious names but are easily recognizable. Among collections of short stories are Chr. Engelstoft's *Halvtreds Aar* (Fifty Years) characterized by concentration and power; Christian Houmark's *Døgnets Barn* (Children of the Day), and Edith Rode's *Det Bittersøde Æble* (The Bitter Sweet Apple).

**Literary Criticism.** Hans Brix began a work, *Danmark's Digtere* (Denmark's Authors), two volumes of which have appeared. Brix is particularly interested in the personality back of the works.

**NORWEGIAN. Drama.** Oskar Braaten's *Den store barndøpen* (The Great Christening) is a play written on broad lines and in a popular vein. *Cæsar Borgia*, by Frederik Pærellius, although not in every way a perfect play for acting, yet contains scenes of great dramatic power.

**Poetry.** In the collection *Juoigem*, Carl Schøyen is highly successful in interpreting the soul life of the Laplanders. Nordahl Grieg's *Stene i strømmen* (Stones in the Stream) shows great lyrical power.

**Fiction.** Norwegian fiction shows a distinctly nationalistic tendency. In the matter of style, we note a preference for native expressions rather than Danish, and a movement away from the Latinity of earlier writings toward an everyday language, unrheterical and unembellished. Two Norwegian-American writers deserve mention. O. E. Rølvaag continued his story *I de Dage in Riket Grundlagges* (The Founding of the Kingdom). Like the earlier volume, so this



book received unstinted praise from Norwegian critics for its style, and from American critics for its faithful portrayal of earlier immigrant life. An English translation of both volumes will soon be published by Harper & Bros. Martha Ostenso's *Graaas* (Wild Geese) treats also of the life of Scandinavian settlers in America. One easily sees that Miss Ostenso is not a native of Norway; she is able to dissect Scandinavian sentiment with the accuracy and objectivity of the outsider. Kristian Elster's *Den Hellige Andreas* (Andreas the Saint) is a satire on the kind of idealism which fails to see the real side of practical problems. Axel Krogh's *Foged Karolius* (Governor Karolius) is an historical novel with strong, idyllic qualities. Among the collections of short stories are Johannes Thrap-Meyer's *Ektaser* (Extasies) and Johan Borgen's *Mot Mørket* (Toward Darkness).

*Science, etc.* Anathon Aal's *Psykologi* is the first Norwegian work dealing with the progress of psychological theory. Johan Landmark's *Fortolkninger til Sören Kierkegaards Ungdomshistorie* might be called in English "Sören Kierkegaard's Youth Interpreted."

*SWEDISH. Poetry.* In *Död och liv* (Death and Life), Karin Ek gives us her own soul experiences of a recent illness, sometimes in the key of the folk song, sometimes in that of the hymn. Another poet who sings from his heart is Ragnar Jändel. His *Heden och Havet* (Heath and Sea) has in it something naive and religious. With Frans G. Bengtsson, on the contrary, poetry is something external. His *Legender om Babel* (Legends about Babel) is interesting from the point of view of form. Bengtsson shows a marked ability to adapt his verse to any subject from any age and country. A good deal of Swedish poetry is written by Finlanders. Of particular interest is Bertel Gripenberg's *Den hemliga glöden* (The Secret Glow), published under a pseudonym and intended at first as a practical joke on the "modernistic" school, to which the poems belong. The extreme exponent of this school is Gunnar Björling, whose new book, *Korset och Löftet* (The Cross and the Promise) is obscure, filled with symbolism and religious mysticism. Jarl Hemmer, on the other hand, belongs to the old school. His *Skarseld* (Purgatory) is extremely subjective and indicates a conflict in the life of the poet.

*Fiction.* The average novelistic technique is probably better than before. Selma Lagerlöf has returned in her later books to the Värmland of *Gösta Berling*, to the mansions of the nobility, and to the cavaliers. In her latest book, *Charlotte Lövensköld*, there are worldly wisdom and irony, mixed with a certain legendary charm. Several miniature novels are brought into the story in concentrated form; these are all held together through the heroine, who dominates the whole. In *Hovmädlaren och Hans Hus* (The Court Painter and His Wife), Mila Hallman gave us an artist novel of the days of Charles XII. Written in a realistic vein, this story of marriage and divorce has a distinctly modern touch. Ernst Didring gave us a good novel of the old style in *Stormens år* (The Islands of Storm). Arvid Mörne, one of the Swedish writers in Finland, wrote *Ett Liv* (A Life), the story of a man who gets further and further away from the ideals of his conservative home and becomes a leader of the

radicals. His work ends in failure, no doubt because he is at bottom egocentric. By its background the story gives us an excerpt of Finnish history. F. U. Wrangel's *Minnen från Konstärkreterna och Författarvärlden* (Recollections from the Artist Circles and the World of Authors) tells of the writer's art studies in Düsseldorf, Paris, and Venice. Of special interest is the author's acquaintance with Strindberg. Among collections of short stories are Sigfrid Siwertz's *Vattenvärlden* (The World of the Sea); Carl Larsson's *By's Lantliga Historier* (Land Stories); and Harald Wägner's *Tåg* n:r 278 (Train No. 278).

*Literature, Memoirs, etc.* The year was rich in memoirs. Esther Jacobson's *Gustav III:s moder* (The Mother of Gustav III), written in an entertaining vein, affords a good insight into the political and social conditions of Sweden during the Age of Liberty. Fröding scholars find Mauritz Hellberg's *Frödingsminnen* (Recollections from the Life of Fröding) valuable. In Arne Lidén's *Den Norska Strömmingen i Svensk Litteratur under 1800-Talet* (Norwegian Influences in Swedish Literature during the Nineteenth Century), the chapter on Strindberg is the best. See PHILOLOGY, MODERN.

**SCARLET FEVER.** R. Bieling, who is director of a serum-manufacturing institute in Germany, discussed the Dick toxin in the *Münchener Medizinische Wochenschrift* for September 3. Even in strong dilution, this will produce the characteristic skin reaction in those sensitive to scarlet fever as well as in actual patients up to the time of convalescence. During convalescence the reaction is absent. If the blood serum of scarlet fever immunes is mixed with the toxin, the latter is neutralized. This much works out perfectly for mankind, but when the author made tests on pigs and sheep the results were negative, although from analogy this should not be the case. Clinically, there can be no doubt of the efficacy of the anti-toxin in toxic scarlet fever, but it is puzzling to find that while the vast majority of convalescents become permanently immune, about 20 per cent retain their sensitiveness to the toxin. This makes us think that there must be another factor besides the anti-body which contributes to immunity. Still more puzzling is the fact that a Dick toxin can be produced by the cultivation of streptococci which have nothing to do with causing scarlet fever, while individuals infected with streptococci of different pathogenic properties yield a toxin which produces the Dick skin reaction. On the other hand, streptococci of scarlet fever may fail to yield a Dick toxin.

These Dick toxins of foreign source are also neutralized by the blood serum of convalescents from scarlet fever. Non-scarletinous streptococci which can produce these Dick toxins have been obtained from the blood of patients with erysipelas, meningitis, lipoid nephrosis, and puerperal sepsis. In other words, scarlet fever immunity and Dick toxin insusceptibility do not run strictly parallel. It may, therefore, be premature to proceed on too large a scale with the immunization of children with the Dick toxin-antitoxin. There are, very likely, streptococci in the blood of scarlet fever patients which are not specific but accidental invaders; so that the toxin produced will be of a mixed nature and not specific. We do not yet know whether

a scarlet fever immune can be infected with some of these other pathogenic streptococci.

Stevens and Dochez report, in the *Journal of the American Medical Association* for April 10, cases of so-called "scarlet fever without rash" in which the chief symptom is sore throat. Some of these patients give a negative Dick test which should indicate immunity from scarlet fever, yet the causal organism appears to be the hemolytic streptococcus of scarlet fever. In other words, the same organism appears to produce separate diseases, and is thought to be able to set up primary nephritis and endocarditis.

**SCHIRMER, FRIEDRICH.** A German violoncellist and conductor, died in St. Louis, January 29. He was born at Bonn, Germany, Oct. 27, 1881. After studying at the conservatories of Cologne and Leipzig, he completed his musical education under Humperdinck, at the Meister-schule in Berlin, and then went to Königsberg as conductor. Having collaborated with Humperdinck and Vollmöller on the musical score of *The Miracle*, he was engaged by Max Reinhardt as conductor for productions in London, Paris, Vienna, Prague and the United States. He wrote also a Symphony in B $\flat$  minor, two symphonic poems, a suite and an overture, besides several choral works with orchestra.

**SCHOOLS.** See EDUCATION IN THE UNITED STATES.

**SCHULTZ-ADAEVSKY, ELLA VON.** Russian pianist and composer, died in Bonn, August 29. She was born in Petrograd, Feb. 10, 1846. After some years of study under Henselt she made her début in 1862, and made successful tours for the next four years. She then entered the Petrograd Conservatory, continuing her studies under Dreychock and Rubinstein (piano) and Famintsyn and Zarembo (composition), specializing in Greek music. From 1882-1909 she lived in Venice, after which time she resided at Neuwied, near Bonn. Her compositions include chamber-music, a capella choruses and pieces for piano. An opera, *The Dawn of Liberty*, was produced in Petrograd in 1891. During her residence in Italy she made an extensive collection of Italian folk-songs.

**SCHUYLER, LOUISA LEE.** American philanthropist, died at Highland Falls, N. Y., October 10. She was born in 1837, of a family of fortune, a great grand-daughter of Gen. Philip Schuyler and Alexander Hamilton. At the outbreak of the Civil War she joined the United States Sanitary Commission, the precursor of the Red Cross. She served as Chairman of the Committee on Organization and Publicity of the New York branch of this Commission during the four years of the war. On May 11, 1872, Miss Schuyler founded, in the home of her parents, the New York State Charities Aid Association which soon became a most useful agency for philanthropic work. In these early days she gathered around her in association with the work such men as Prof. Theodore W. Dwight, Howard Potter, Theodore Roosevelt (father of the President), and William E. Dodge. Miss Schuyler in 1874 founded the first training school for nurses, in connection with Bellevue Hospital. In 1907 Miss Schuyler was appointed one of the original trustees of the Russell Sage Foundation, and in 1915 Columbia University conferred upon her the degree of

Doctor of Laws; the second time in the history of the university that this degree had been given to a woman. In 1923 she received one of the three gold medals of the Roosevelt Memorial Association. In 1908 she organized the first American committee of physicians and laymen to investigate the causes of blindness. Later she established the National Committee for the Prevention of Blindness.

**SCHUYLERSVILLE, N. Y.** See CELEBRATIONS.

**SCHWAN, THEODORE.** American soldier, died at New York, May 27. He was born July 9, 1841, in Germany, and entered the United States regular army in 1857. For distinguished gallantry in action at Peebles Farm, Virginia, Oct. 1, 1864, he was awarded the Medal of Honor. In 1892-93 he was attached to the American embassy in Berlin, and during this period he prepared a report on the organization of the German army and its general staff. This was submitted to the authorities in the United States and was for a long time the standard work on military organization. In 1901 Major General Schwan was retired from the army on his own request, after 44 years' service.

**SCHWARZ, JOSEPH.** An eminent Russian dramatic baritone, died in Berlin, November 10. He was born at Riga, Russia, in 1880. He became an excellent pianist, and in 1901 he began his vocal studies under Heinemann in Berlin. After further training under Rubinsohn, in Vienna, he made his début as Amonasro in *Aida* at Linz, 1904. Then he sang at Graz and Riga, where Mahler heard him and secured him at once for the Vienna Hof-oper (1910). There he remained six years, and then became a member of the Staats-oper in Berlin. His American début, in concert, New York, Jan. 3, 1921, created almost a sensation, and he was immediately engaged by the Chicago Opera Company, where he made his first appearance as Rigoletto Nov. 21, 1921.

**SCIENCES, NATIONAL ACADEMY OF.** See NATIONAL ACADEMY OF SCIENCES.

**SCIENTISTS, CHRISTIAN.** See CHRISTIAN SCIENCE.

**SCOTLAND.** See GREAT BRITAIN.

**SCOTT, WILLIAM R.** President of the Southern Pacific Lines in Texas and Louisiana, died at Los Angeles, Calif., on December 20. He was born at Houston, Tex., in 1860, and from the age of 21 devoted himself to railroad work. He began as a fireman on the Texas and Santa Fé Railroad and rose steadily through various positions until in 1903 he joined the Southern Pacific Railway as assistant superintendent of the Sacramento division. In 1912 he was elected to the vice-presidency of the system. During the World War he was Federal manager of part of the Southern Pacific system, and in 1920 he became president of the Southern Pacific lines in Texas and Louisiana, which position he held up to his death.

**SCRIPPS, EDWARD WYLLIS.** American newspaper man, died March 12. He was born at Rushville, Ill., June 18, 1854, and received his education in the public schools and from private tutors. His first step in the newspaper business was taken in Detroit, Mich., in 1874, and he gradually acquired a controlling interest in 28 daily newspapers in 15 States. He became the presiding genius of the Scripps-Howard news-

papers, including the Scripps-McRae League of Cincinnati. He was also the controlling owner of the United Press Association of New York City, and controlling director of the Newspaper Enterprise Association, Cleveland, Ohio. Among the newspapers controlled by Mr. Scripps were the *Cleveland Press*, of which he was founder and first editor, the *Cincinnati Post*, the *Toledo News-Bee*, the *Columbus Citizen* and the *Pittsburgh Press*.

**SCRIPPS COLLEGE FOR WOMEN.** See UNIVERSITIES AND COLLEGES.

**SCULPTURE.** See ART EXHIBITIONS; ART MUSEUMS; ART SALES; PAINTING AND SCULPTURE.

**SCURVY.** See FOOD AND NUTRITION.

**SEAL FISHERIES.** See ALASKA.

**SEAPLANE.** See AERONAUTICS.

**SEISMOLOGY.** The word "earthquake" has in modern times acquired a two-fold meaning—it still denotes a shaking of the solid earth which can be felt and may cause damage, and it is also used for any of those small tremors that cannot be felt but which can be registered by delicate seismometric instruments; seismology has come to be, to an ever-increasing extent, the study of the latter. The unfelt disturbances first attracted attention because in some cases they were obviously connected with very distant quakes of destructive violence. It was soon found, however, that those which could be directly connected with distant quakes were far outnumbered by those that could not be so connected; it has been generally assumed that the latter are manifestations of violent quakes that occur under the sea or in uninhabited regions, but Oldham maintains that with few exceptions the two types of tremors are of quite different origins. The foci of quakes that are felt usually lie at small depths in the earth's crust—ordinarily much less than 10 kilometers—while the distant, unfelt quakes seem to originate at depths well over 100 kilometers; Oldham regards the shallow, destructive shocks (episcisms), when they occur, as secondary effects of the deep-seated disturbances (bathyseisms), the former being due to the resultant fracturing of crustal rocks nearly simultaneously with the deep-seated shock.

The interpretation of the records made by self-registering seismographs requires the aid of mathematical investigation of the propagation of different types of elastic waves through media such as the body and the rocky crust of the earth. Several such studies have recently been carried out by Jeffreys, Stoneley, Visser, Kunitomi, Matuzawa, and others. The known facts about the mean density and the tidal yielding of the earth, together with the results of deciphering seismometric records, provide means whereby, with the aid of laboratory experiments (such as those of L. H. Adams and others at the geophysical laboratory of the Carnegie Institution) on rocks, under conditions of temperature and pressure simulating those within the earth, the nature and structure of the interior of the earth may be determined. It is now quite certain that the earth is composed of a metallic core, surrounded by a thick shell of peridotitic (ultra-basic) rocks (such as compose meteorites) and a thinner shell of granitic (acidic) rocks, together with a surface film of sedimentary rocks and soil. It is generally supposed that the earth is solid and rigid through-

out, although Jeffreys has recently brought forth evidence to show that the core may have little rigidity, and, perhaps, is even fluid.

New seismological tables for the determination of epicentral distance and depth of focus have recently been issued by Mohorovičić, and by Byerly and Mitchell.

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**SELANGOR.** See article, FEDERATED MALAY STATES.

**SENEGAL**, sèn'égál'. A colony belonging to France on the west coast of Africa, under the government of French West Africa (q.v.). Total area, 74,112 square miles; population in 1921, estimated at 1,225,523, of whom 4321 were Europeans. Capital, St. Louis, with a population in 1917 of 23,326. Other important towns are: Dakar, the seat of the government-general of West Africa, and a fortified naval station; population, 1918, 25,468, of whom 2791 were French; and Rufisque, population, 11,414. These three towns, and also Goree, a small island near Dakar, are municipal communes governed by mayors and corporations.

The estimated area under cultivation has been placed at 307,000 acres. Cotton is cultivated, and a wild variety is also found. The principal source of wealth consists of peanuts, and the value of the export of this commodity is three times that of all other exports taken together. Gum, corn, palm products, rice, sesame, shea butter, and millet are produced, the last-named being, from the native standpoint, the most important cereal. Two kinds are grown; the larger millet is cultivated extensively in the river valleys and the small millet on drier ground. In 1924 the imports were valued at 477,871,418 francs and the exports at 386,098,032 francs. The local budget for 1924 was 30,559,261 francs. Dakar, Rufisque, and St. Louis are connected by a railway 165 miles in length, and during the year another stretch was nearly completed between Thiès and Kayes, a distance of 435 miles. The administration is in the hands of a lieutenant-governor, assisted by a council of 40 members, 20 of whom are elected by the French citizens and 20 by representatives of the native chiefs. The colony sends one deputy to the French parliament.

**SERBIA.** A former Balkan kingdom which was proclaimed in December, 1918, a part of the new Unitary State of the Serbs, Croats, and Slovenes. See JUGO-SLAVIA. It is bounded on the east by Bulgaria, on the west by Albania and Montenegro, on the south by Greece, and on the north is separated from Hungary by the Danube and Save Rivers. In the new state Serbia is divided into two provinces, North Serbia, with an area of 19,286 square miles and a population, at the census of 1921, of 2,655,078, and South Serbia, with an area of 17,651 and a population of 1,474,560. The former capital of Serbia, Belgrade, became the capital of Jugo-Slavia, and had a population in 1921 of 111,740.

**SESQUI-CENTENNIAL AT PHILADELPHIA.** See EXPOSITIONS.

**SEVENTH DAY ADVENTISTS.** See ADVENTISTS.

**SEWERAGE AND SEWAGE TREATMENT.** Outstanding among new projects was a system of intercepting or trunk collecting sewers and a mammoth pumping station and sewage-treatment plant for the city of *Detroit, Mich.*, general plans for which were approved by the city council late in the year. The intercepting sewers were designed to divert the sewage from many outlets along the waterfront to the pumping station and sewage-treatment plant on the Rouge River below Detroit. The pumping station and sewage works, as outlined in a special report by consulting engineers, would have a capacity sufficient to treat the sewage from a population of 2,400,000, but the intercepting sewers would be large enough to bring to these works the sewage from a population of 3,500,000. On arriving at the treatment plant the sewage would first pass through bar screens and then through a "skimming-detritus" tank plant. Here the light floating matter, chiefly grease, would be removed from the top of the tank while the heavier matter in suspension, mostly mineral and non-putrescible, would gradually fall to the bottom of the tank for removal and disposal separately from the settleable solids of a putrefactive character. The latter would be retained and reduced in volume by two-story (Imhoff) tanks. The clarified effluent from the Imhoff tank would be subjected to chlorination for disinfecting purposes. The residue or sludge in the lower compartment of the Imhoff tank would go to sludge-drying beds. The estimated cost of the intercepting sewers was \$15,600,000; pumping station, \$2,250,000; sewage works, \$18,150,000. These three sums, with 10 per cent for engineering contingencies, made up a total of nearly \$40,000,000. The project also included a large mileage of sewer extensions in various parts of the city, at a total estimated cost of some \$60,000,000; making the entire programme come to over \$100,000,000. This proposal is to be carried out during the next seven years. The *Chicago Sanitary District* is continuing its programme of building sewage works to lessen the volume of organic matter discharged through the drainage canal into the Mississippi River system. (See earlier YEAR BOOKS.)

*Cleveland* was building its third sewage-treatment plant. This, with the two already put in operation, will complete the programme entered upon some years ago. The two earlier plants are on the lake front. The new plant is on the Cuyahoga River, and on account of a less amount of diluting water will consist of not only two-story (Imhoff) settling tanks, but also sprinkling filters. *New York City* was continuing its policy of putting in sewage works for sections of the city so located as to suffer most from the discharge of untreated sewage into tidal water. Partial treatment only is considered sufficient for the time, and for this purpose fine screens are being used. A plant of this type, having a capacity of 80,000,000 gallons per day, was put in operation near the end of the year, to serve a portion of the Jamaica section of the city, on Long Island. A number of smaller fine-screening plants are already in operation. Passing to the Pacific front of the Continent, where the city of *Los Angeles* had already installed large fine-

screening plants, sanitation districts comprising a large area within Los Angeles County, but outside the city, were being formed in accordance with a general statute, and a number of these had united in a joint intercepting-sewer scheme. Toward the end of the year the State Board of Health of California, which, like the boards in many other states, must approve sewage-disposal schemes before they are put under construction, passed tentatively upon a project for what was known as the *Los Angeles County Sanitation Districts*. The proposed intercepting sewer would have sufficient capacity to serve 1,800,000 persons. Fine screening is proposed before the sewage from these districts is discharged into the Pacific Ocean.

A new book in this field is Fuller and McClintock's, *Solving Sewage Problems* (New York), and a revised edition of an English book is Kershaw's *Sewage Purification and Disposal* (Cambridge, England, and New York).

**SEXUAL SELECTION.** See ZOOLOGY.

**SHANTUNG**, shān'tōng'. One of the eighteen provinces of China proper; in dispute between China and Japan after the Treaty of Versailles; returned to China by Japan in accordance with the agreement reached at the Washington Conference of 1921-22. Area, 55,970 square miles; population, estimated at 25,810,000.

**SHEEP.** See LIVESTOCK.

**SHERMAN**, STUART PRATT. Literary editor of the *New York Herald-Tribune*, and critic, died on Lake Michigan, near Manistee, Mich., August 21. He was born Oct. 1, 1881, at Anita, Ia., and in his childhood traveled widely in the various states with his parents. He was graduated from Williams College in 1903, and one year later he obtained the A.M. degree from Harvard. It was while he was working for this degree that he wrote his famous letter to *The Nation* attacking the classical method of teaching English, as employed by Prof. George Lyman Kittredge. He went to Northwestern University as instructor in English, and followed his successes there in a similar position at the University of Illinois. His rise to a full professorship was remarkably fast; in 1911 he became head of the Department of English. His teaching appointments took up 18 years of his life, but meanwhile he was busy writing. With Prof. William P. Trent, Carl van Doren and John Erskine as associates he finished, in 1917, *The Cambridge History of American Literature*. Soon after he published his first independent book, *Matthew Arnold*, and from this time on he gave himself to the writing of critical articles. He was unable, however, to follow this line of work exclusively, and before long his volume, *On Contemporary Literature*, stirred critics and students alike. His critical articles were collected into books, and his next work, *Americans*, was a collection of essays which had appeared in *The Atlantic Monthly*, *The Nation*, and *The Yale Review*. He also wrote *Genius of America*, and *Critical Woodcuts*. In 1923 Mr. Sherman was elected to membership in the American Academy of Arts and Letters; he had long been a member of the National Institute of Arts and Letters. In 1924 he became literary editor of the *New York Herald-Tribune*.

**SHERRY**, LOUIS. American caterer and restaurateur, died in New York, June 9. He

was born at St. Albans, Vt., in 1855. He first went to Montreal, but shortly removed to New York. He worked as a waiter, and was still a young man when he was asked by the management of the Hotel Elberon, at Elberon, N. J., to take charge of the dining room and the kitchen of that establishment. With several hundred dollars which represented his profits of the season, Sherry returned to New York and opened a catering business at 38th Street and 6th Avenue. When this establishment became prosperous he went to Paris in search of new ideas for his business. On his return he moved to Fifth Avenue and his activities developed rapidly. In 1919 Sherry declared that Prohibition had made his business impossible, and he closed his doors, but later he opened two new restaurants.

**SHERWELL, GUILLERMO ANTONIO.** American educator and secretary of the Inter-American High Commission, died July 7, at Washington, D. C. He was born at Paraje Nuevo, Vera Cruz, Mexico, June 5, 1878, of American parents, and studied at the National University of Mexico and at Georgetown University. For one year he taught psychology and the science of education at the Normal School in Jalapa, Mexico, and then became professor of history and Spanish literature in the College of Jalapa, a position which he held from 1903 to 1912, when he became dean of the college. In 1913 he was made head of the grammar schools, normal schools and vocational school system of Mexico City. He later served as counselor to the Mexican National University and was put in charge of the department of public instruction and fine arts of Mexico. In 1915 he went to New York, and spent some time as a teacher of Spanish in the high schools of that city. In 1918 he was appointed juristic expert of the Inter-American High Commission, in Washington, D. C., and in the same year became professor of Spanish and foreign laws in Georgetown University. Dr. Sherwell served as secretary of the Dominican group committee of the first Pan-American financial conference, and as technical attaché of the International High Commission for the plenary meeting in 1918.

**SHIPBUILDING.** According to the annual summary of the mercantile shipbuilding of the world for the year 1926 prepared by Lloyd's Register, the total output for the year was 1,674,977 tons, a decrease of 518,427 tons from 1925, and of 1,057,605 tons from 1913 when the pre-war world's record output amounting to 3,332,882 tons was reached. This summary of Lloyd's Register, it should be remembered, does not include warships and takes into account only merchant vessels of 100 tons gross and upwards that were launched in 1926, whether they were completed during the year or were under construction December 31st.

In 1926 there were launched throughout the world 28 vessels of over 300,000 tons fitted with steam turbines, all of which with three exceptions were equipped with reduction gearing. The average tonnage of these vessels exceeded 10,760 tons. Internal combustion engines were fitted to ships of 704,006 tons launched during 1926 as compared with 843,629 tons launched in 1925, but the 1926 proportion was 76 per cent of the world's output of steam tonnage as compared with about 65 per cent in 1925. At the end of 1926, however, the tonnage of motor ships being

built in the world amounted to 90 per cent of the steam tonnage under construction.

**GREAT BRITAIN.** The output of shipping from Great Britain and Ireland in 1926, namely, 639,568 tons and 38.2 per cent of the world's total, was 445,065 tons or 11 per cent lower than in the previous year. The 1926 production included 142 steamers of 431,833 tons, 37 motor ships of 201,913 tons, and 18 barges of 5822 tons, all built of steel. Of the tonnage launched during the year 89,908 tons, or 14 per cent, was for owners residing abroad, while the remainder was for registration in Great Britain and Ireland. There were 44 vessels of between 5000 and 10,000 tons each, and 12 vessels of 10,000 tons and over. The largest were the motor ships *Alcantara*, 22,150 tons, and *Carnarvon Castle*, 20,063 tons; and four turbine steamers, *Almeda*, *Andalusia*, *Avelona*, and *Avila*, of about 14,000 tons each. Excluding vessels of less than 1000 tons, 19 tankers of 100,020 tons were launched during 1926. Steam turbines were to be used on 13 British vessels with a total tonnage of 119,308 tons launched in 1926, all of which were to have geared turbines, and of the 12 vessels of 10,000 tons and upwards launched during the year 8 were to be fitted with turbines. During 1926 British and Irish yards launched 37 motor ships of 201,913 tons representing over 46.75 per cent of the steam tonnage launched.

**Output by Ports.** The Clyde district with a production of 267,645 tons was first among British shipbuilding centres, followed by the Tyne with 126,609 tons, Belfast with 92,219 tons, the Tees with 37,183 tons, the Wear with 35,187 tons, and the Mersey with 34,619 tons. The Clyde showed a large decrease, its output being 239,072 tons lower than in 1925, and decreases were scored for the other ports except Belfast where there was an increase of 34,173 tons, and the Mersey where the gain was 12,940 tons.

**ITALY.** Italy in 1926 launched 220,021 tons or 77,975 tons more than in 1925, and the greatest output ever recorded for the country and the first time that it exceeded all countries except Great Britain. In the Trieste district 14 vessels of 94,136 tons were launched as compared with the output of 110,006 tons during 1925, but in this number were included a motor ship of 33,000 tons, the *Augustus*, a turbine steamer of 32,583 tons, the *Roma*, launched at Sestri Ponente, near Genoa, and a motor ship, the *Vulcania* of 23,700 tons, launched at Monfalcone, near Trieste. Eleven vessels of between 6000 and 10,000 tons each were launched during the year, and one of just over 10,000 tons. Seventeen motor ships of 153,121 tons were launched and 3 turbine engine vessels of 48,233 tons.

**GERMANY.** Germany was third in the nations of the world for tonnage launched, with 60 vessels of 180,548 tons, or a decrease of 225,826 tons from 1925, when Germany had a production of 37 per cent of the world's shipping outside of Great Britain. The 1926 output, however, included three vessels to be fitted with geared steam turbines, one, the turbine steamer *New York*, of 21,200 tons, and two of 7288 tons. There were 22 vessels of 70,478 tons, to be fitted with oil engines, 5 tankers of 44,792 tons, and the *Padua*, a steel four-masted barque of 3064 tons.

**UNITED STATES.** Lloyd's Register reported for the United States on their basis of registry an

output of 150,613 tons which was 21,837 tons more than in 1925, but, of course, far under the record year 1919 when 3,579,826 tons were launched. Of the tonnage launched 37 steamers and motor ships of 81,350 tons, and 27 barges of 25,954 tons were built on the Atlantic Coast, 5 steamers of 35,396 tons on the Great Lakes, and 9 vessels of 7913 tons on the Pacific Coast. The largest vessels launched during the year were the turbine steamer *Malolo*, of 17,200 tons, built at Philadelphia; 6 vessels of between 5000 and 9000 tons were launched on the Atlantic Coast; and 2 vessels of about 8000 tons launched on the Great Lakes. The output of the United States is discussed further on in more detail.

**FRANCE.** The output of shipping for 1926 in France was 121,342 tons, or 45,773 tons more than in 1925. France launched the largest vessel of the year in the world, namely, the turbine steamer *Ile de France* of 43,500 tons, built at Saint Nazaire. There were also two motor ships and one turbine steamer of between 8000 and 9000 tons each, and one steam tanker of 11,500 tons. Five vessels of about 70,000 tons launched in France during the year were fitted for burning oil fuel.

**HOLLAND.** Holland's total tonnage launched in 1926 was 93,671 tons or 14,848 tons higher than in the previous year, excluding the vessels exclusively intended for river navigation, of which as usual there was a considerable output. There was one steamer of 8700 tons and 6 motor ships of about 7100 tons each. Vessels fitted with oil engines launched during the year totaled 25 of 55,170 tons; 6 of these, of 43,212 tons, and 2 steamers, of 5203 tons, were tankers.

**SCANDINAVIAN COUNTRIES.** There was a reduction of tonnage in Denmark, Norway and Sweden in 1926 from 1925, the output for the three countries amounting to 134,863 tons. The decrease was due almost entirely to the decline of 19,568 tons in the output from Norwegian yards. There were 9 motor ships of between 4000 and 7500 tons launched in Denmark and 9 in Sweden of similar dimensions. Internal combustion engines were fitted to a total tonnage of 115,958 tons, of which 63,537 tons were in Denmark, 51,660 tons in Sweden, and 761 tons in Norway.

**JAPAN.** In 1926 the Japanese output—52,405 tons—was 3379 tons less than in 1925, and comprised 4 vessels of between 5400 and 7300 tons each, one of which was fitted with steam turbines and was of 5484 tons, while three were to be fitted with oil engines.

**BRITISH DOMINIONS.** The British dominions overseas in 1926 launched 12,400 tons less than in 1925, the total output being 33,678 tons. Of this amount 25,284 tons were launched in Canada, including 10,836 tons on the Great Lakes. There were 5 steamers, of between 2300 and 2500 tons each, and one of 10,480 tons, the *Glenmohr*, which was launched at Toronto.

**AMERICAN SHIPBUILDING INDUSTRY.** The shipbuilding industry in the United States in 1926 showed a substantial gain over the previous year. According to the annual summary of *Marine Engineering and Shipping Age* (New York) American shipyards delivered 494 merchant vessels of 225,704 gross tons in 1926 and had under construction 272 merchant vessels of 272,161 gross tons, or an output 19 per cent greater than in 1925 and 56 per cent greater than in 1924. The orders in hand at the end of the year represented 63 per cent more tonnage

than in December, 1925, and 122 per cent more than at the end of 1924. In 1926, 41 American yards were building merchant vessels, as compared with 49 in 1925 and 33 in 1924. At the end of the year 37 yards had orders for new work, as against 33 in 1925 and 27 in 1924. Of the tonnage built in 1926, 51 per cent was built on the Atlantic and Gulf Coasts, 34 per cent on Western rivers, 13 per cent on the Great Lakes, and 2 per cent on the Pacific Coast. Of the vessels built, 30 per cent of the tonnage was steam driven, 15 per cent motor ships, and 55 per cent barges or non-self-propelled craft.

United States naval vessels were under construction at the Fore River plant of the Bethlehem Shipbuilding Corporation and at the American Brown-Boveri Electric Corporation, Camden, N. J., where the airplane carriers *Lexington* and *Saratoga* were being built. The Cramp yard in Philadelphia was building the 10,000-ton cruiser *Salt Lake City*.

The Commissioner of Navigation, in his report for 1926, included the accompanying table of vessels built during the fiscal years 1925 and 1926.

VESSELS BUILT DURING FISCAL YEARS 1925 AND 1926

Classification Geographical distribution	1925		1926	
	Number	Gross tons	Number	Gross tons
Atlantic and Gulf coasts . . . . .	462	82,899	468	186,989
Pacific coast . . .	232	41,534	243	22,669
Northern lakes . .	64	66,087	54	55,169
Western rivers . .	209	9,826	159	9,846
Total . . . . .	967	199,846	924	224,678
<b>Power and material</b>				
Sail:				
Wood . . . . .	28	2,869	11	263
Metal . . . . .	..	..	..	..
Steam:				
Wood . . . . .	38	5,748	35	4,624
Metal . . . . .	36	95,227	47	104,649
Gas:				
Wood . . . . .	580	18,791	526	15,487
Metal . . . . .	25	21,287	37	15,826
Canal: Wood . . .	2	270	7	1,508
Barges:				
Wood . . . . .	240	46,475	224	69,995
Metal . . . . .	18	9,179	37	13,321
Total . . . . .	967	199,846	924	224,678

**SHIPPING.** On June 30, 1926, the gross tonnage of seagoing and iron steamers and motor ships comprising the merchant fleets of the world, disregarding sailing vessels and wooden steamers, was 59,117,000 tons, which was a gain of 331,000 tons over 1925 and an increase of more than 16,500,000 tons, or 39 per cent from the tonnage on June 30, 1914, just previous to the World War. In 1926 the tonnage of tankers, which in 1914 totaled 1,479,000 tons, had increased to 5,665,000 tons, and that of motor ships to 3,500,000 tons, from the small total of 234,000 tons in 1914. By 1926 more than 18,250,000 tons of merchant steamers were equipped for oil fuel, as compared with 1,310,000 tons in 1914. Figures for world shipping in 1926 from *Lloyd's Register* are given in the accompanying table.

At the end of June, 1926, there were more than 6,000,000 tons gross of idle shipping not in use, including nearly 4,000,000 tons of United States vessels and 1,360,000 tons of British vessels laid up in Great Britain and Ireland. There was, however, an improvement during the latter half

TABLE SHOWING THE NUMBER AND GROSS TONNAGE OF MERCHANT VESSELS OF 100 TONS GROSS AND UPWARDS LAUNCHED IN THE VARIOUS COUNTRIES OF THE WORLD DURING THE YEARS 1918-1926

Year	Austria Hungary		Belgium		British Dominions Coasts		Canadian Lake Ports		Denmark		France	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1918	17	61,757	54	80,181	77	26,744	14	21,595	31	40,932	89	176,095
1914	11	84,385	8	17,145	58	22,288	22	25,246	25	32,815	38	114,052
1915	..	"	No Returns		27	13,289	4	8,725	23	45,198	6	25,402
1916	..	"	No Returns		36	22,577	4	8,994	28	35,277	9	42,752
1917	..	"	No Returns		80	66,475	25	27,996	23	20,445	6	18,828
1918	..	"	No Returns		184	280,514	22	49,390	13	28,150	3	13,715
1919	..	.....	2	2,433	285	298,495	28	60,233	46	37,766	84	32,638
1920	..	.....	5	8,371	90	174,557	13	29,087	30	60,669	50	93,449
1921	..	.....	3	17,909	49	118,303	5	11,872	37	77,238	65	210,663
1922	..	.....	4	7,497	37	58,347	2	9,418	23	41,016	62	184,509
1923	..	.....	5	1,102	41	37,072	3	4,191	24	49,479	27	96,844
1924	..	.....	2	3,997	29	29,815	2	15,064	33	63,987	26	79,685
1925	..	.....	3	4,206	47	32,220	4	18,858	21	73,268	35	75,569
1926	..	.....	8	3,627	39	22,842	3	10,836	25	72,108	34	121,342

Year	Germany		Great Britain and Ireland		Holland		Italy		Japan		Norway	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1918	162	465,226	688	1,932,153	95	104,296	38	50,356	152	64,664	74	50,637
1914	89	387,192	656	1,683,558	130	118,153	47	42,981	32	85,861	61	54,204
1915	..	"	327	650,919	120	118,075	30	22,132	26	49,408	59	62,070
1916	..	"	306	608,235	201	180,197	10	56,654	55	145,624	52	42,458
1917	..	"	286	1,162,896	146	148,779	11	38,906	104	350,141	44	46,103
1918	..	"	301	1,843,120	74	74,026	15	60,791	198	489,924	51	47,723
1919	..	"	612	1,620,442	100	137,086	32	82,713	133	611,883	82	57,578
1920	..	"	618	2,055,624	99	133,149	82	133,190	140	456,642	30	38,855
1921	242	509,064	426	1,538,052	98	232,402	85	164,748	43	227,425	35	51,458
1922	187	525,829	235	1,031,081	60	163,182	42	101,177	49	83,419	23	32,391
1923	109	345,062	222	645,651	35	65,632	21	66,523	44	72,475	48	42,619
1924	108	175,113	494	1,439,885	41	63,627	19	82,526	31	72,757	34	25,139
1925	121	406,374	342	1,034,633	47	78,823	31	142,046	23	55,784	48	28,805
1926	60	180,548	197	639,568	47	93,671	27	220,021	26	52,405	25	9,237

Year	Spain		Sweden		United States Coast		Great Lakes		Other Countries		Total	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1913	12	8,488	25	18,524	182	228,232	23	48,216	17	4,786	1,750	3,382,882
1914	5	5,163	26	15,163	84	162,937	10	37,825	22	13,840	1,319	2,852,753
1915	5	12,765	27	20,319	76	157,167	8	20,293	5	876	743	1,201,638
1916	6	10,847	34	26,769	167	384,899	44	119,348	12	3,449	964	1,688,080
1917	10	22,777	34	26,760	266	821,115	60	176,804	17	9,761	1,112	2,937,786
1918	18	17,389	36	39,583	741	2,602,153	188	430,877	22	17,089	1,866	5,447,444
1919	41	52,609	53	50,971	852	3,579,826	199	485,559	34	24,322	2,483	7,144,549
1920	13	45,950	46	63,823	467	2,348,725	42	127,528	34	42,047	1,759	5,861,666
1921	11	47,256	27	65,911	166	995,129	7	11,284	78	63,465	1,377	4,341,679
1922	2	7,776	14	30,038	55	97,161	4	21,977	53	77,316	852	2,467,084
1923	7	4,488	10	20,118	69	96,491	14	76,326	22	19,308	701	1,648,181
1924	2	3,859	12	31,211	71	90,155	8	49,308	12	21,673	924	2,247,751
1925	1	127	17	53,750	94	78,766	7	50,010	14	15,165	855	2,193,404
1926	6	25,671	14	53,518	73	115,217	5	35,396	11	18,970	600	1,674,977

\* Returns are not available as regards Germany and Austria-Hungary for the war period (1914-18) nor as regards Germany for 1919 and 1920.

of the year, so that by December 31 the world's idle shipping had declined to about 4,076,000 gross tons, the more important reductions in the concluding six months of the year being those in the United States and in the United Kingdom, 881,000 and 744,000 tons, respectively.

In the United States, in the year ended June 30, 1926, there was a decline in merchant shipping amounting to 565,000 tons, or 5 per cent, which did not, however, reflect less tonnage active under the American flag, but rather a decrease of idle shipping by about 250,000 gross tons. On the other hand, there were substantial increases in shipping in the following countries: Italy, 231,000 tons, or 8 per cent; Norway, 194,000 tons, or 7 per cent; and the British dominions, 94,000 tons, or 4 per cent. Other countries did not show substantial changes. The accompanying table from *Commerce Reports* shows the tonnage of shipping owned in the maritime countries of the world on June 30, 1926, and in 1914.

[In thousand gross tons]		
Country		
Great Britain and Ireland	1914	1926
British Dominions	1,407	2,324
United States	1,887	11,040

[In thousand gross tons]		
Country		
France	1,918	3,303
Germany	5,098	3,049
Holland	1,471	2,552
Italy	1,428	3,125
Japan	1,642	3,806
Norway	1,923	2,749
Other countries	6,913	7,931
Total	42,514	59,116

During 1926 oversea trade in the world's merchant marine increased, but that of Europe had not grown to the same extent as that of other parts of the world. The British coal strike, however, provided temporary employment for many idle ships, and caused freights—particularly those of bulk cargoes, which had declined in the first and second quarters of 1926—to rise rapidly and to be maintained at a high level during the third and fourth quarters of the year. Shipment of coal from the United States to the United Kingdom began during the latter part of May, and from that time until the end of November aggregated nearly 9,200,000 tons. Charter rates ranged from \$2.90 at the close of May to about \$10 in October.



UNITED STATES. The Commissioner of Navigation, in his *Annual Report* for the fiscal year 1925-26, stated that on June 30, 1926, the merchant marine of the United States included all kinds of documented vessels, and comprised 26,343 of 17,311,147 gross tons, of which 3052 seagoing vessels of 11,895,058 gross tons were 1000 tons or over, as compared with 26,323 of 17,399,376 gross tons on June 30, 1925. The ownership of seagoing tonnage on July 1, 1926, was as follows: Private ownership, 500 tons and over, 1311 steel ships of 5,899,753 gross tons, and 685 wooden ships of 832,971 gross tons, or a total of 1996 vessels of 6,732,724 gross tons. The United States Shipping Board, on July 1, owned 1054 steel vessels of 1000 gross tons and over, or a total of 5,157,889 tons, and 2 wooden vessels of 4445 gross tons, or a total of 1056 of a gross tonnage of 5,162,234. This total compared with that of July 1, 1925, when there were 1218 ships of 5,839,659 gross tons. The decrease of 162 vessels of 677,325 gross tons owned by the Shipping Board was explained as follows: Lost, 1, of 5588 gross tons; sold to aliens, 6, of 26,603 tons; sold to citizens, 127, of 547,832 tons; scrapped, 28, of 91,584 tons; and reduced by readmeasurement or rebuilding, tonnage to the amount of 5658 gross tons.

On June 30, 1926, 3052 vessels of the United States merchant marine of 500 tons and over were engaged in the foreign and coasting trades, as indicated in the table at the bottom of the page.

The following table shows the geographical distribution, motive power, and material of construction of the American merchant fleet for the fiscal years 1925 and 1926.

COMPARISON OF AMERICAN MERCHANT MARINE OF 1925 AND 1926  
TOTAL MERCHANT FLEET

Classification	1925		1926	
Geographical distribution	Number	Gross tons	Number	Gross tons
Atlantic and Gulf coasts . . . . .	15,679	11,101,642	15,488	11,015,227
Pacific coast . . . . .	6,035	3,282,243	6,157	3,290,459
Northern lakes . . . . .	2,677	2,853,019	2,626	2,844,473
Western rivers . . . . .	1,932	162,472	2,072	160,988
Total . . . . .	26,323	17,399,376	26,343	17,311,147
Power and material				
Sail:				
Wood . . . . .	2,381	835,288	2,269	791,994
Metal . . . . .	141	285,785	182	322,502
Steam:				
Wood . . . . .	3,837	703,318	3,169	627,417
Metal . . . . .	4,110	13,791,145	4,064	13,671,155
Gas:				
Wood . . . . .	10,899	284,000	11,065	292,719
Metal . . . . .	262	196,492	802	233,976
Canal: Wood . . . . .	342	89,827	331	89,286
Barges:				
Wood . . . . .	4,381	1,087,715	4,457	1,086,254
Metal . . . . .	407	225,806	504	245,844
Total . . . . .	26,323	17,399,376	26,343	17,311,147

	Foreign		Coasting		Total	
	Number	Gross tons	Number	Gross tons	Number	Gross tons
Vessels 1,000 gross tons and over:						
Steam and gas . . . . .	1,409	6,920,832	872	4,029,305	2,281	10,950,137
Sailing . . . . .	68	136,908	296	485,364	369	622,272
Vessels 500 to 999 gross tons:						
Steam and gas . . . . .	18	28,498	89	51,098	107	79,596
Sailing . . . . .	62	42,459	243	200,594	305	243,053
Total . . . . .	1,552	7,128,697	1,500	4,766,361	3,052	11,895,058

COMPARISON OF AMERICAN MERCHANT MARINE OF 1925 AND 1926  
TOTAL MERCHANT FLEET  
Continued

Classification	1925		1926	
Trade	Number	Gross tons	Number	Gross tons
Registered:				
Sail—				
Wood . . . . .	283	188,397	247	160,405
Metal . . . . .	22	46,280	25	69,702
Steam—				
Wood . . . . .	180	113,461	138	62,589
Metal . . . . .	1,581	7,506,612	1,434	7,113,493
Gas—				
Wood . . . . .	1,449	67,584	1,498	71,031
Metal . . . . .	30	66,352	31	72,423
Barges—				
Wood . . . . .	1,179	147,976	1,228	158,210
Metal . . . . .	30	16,467	30	14,006
Total . . . . .	4,714	8,154,972	4,631	7,721,859
Enrolled and licensed				
Sail—				
Wood . . . . .	2,109	641,221	2,022	631,589
Metal . . . . .	119	239,505	157	252,800
Steam—				
Wood . . . . .	3,164	590,688	3,081	564,828
Metal . . . . .	2,579	6,284,533	2,630	6,557,662
Gas—				
Wood . . . . .	9,448	210,819	9,567	221,688
Metal . . . . .	232	130,140	271	161,668
Canal: Wood . . . . .	342	89,827	331	89,286
Barges—				
Wood . . . . .	3,186	890,175	3,229	928,044
Metal . . . . .	440	209,839	474	231,838
Total . . . . .	21,653	9,250,930	21,712	9,589,288
Grand total . . . . .	26,323	17,399,376	26,343	17,311,147

The United States Shipping Board, in its annual report for the fiscal year ended June 30, 1926, stated that the Government-owned merchant fleet had been reduced during that period by a total of 350 ships, representing 1,671,390 dead-weight tons, through sales to private interests, both for operation and for scrapping. At the end of the fiscal year the total government-owned fleet amounted to 881 vessels of 6,876,069 tons in the aggregate. The Shipping Board had undertaken to form from the war-time fleet a nucleus around which an American merchant marine could be established and ultimately owned privately. Numerous trade routes, both passenger and cargo, had been established, and these routes were turned into private hands for guaranteed operation over a specified period of years, as far as purchasers for these services could be developed. During the fiscal year the Shipping Board sold two passenger lines which it had established and operated, the Pan American Line and the American Oriental Mail Line. These, with the operation of the United States Lines, running between New York and Great Britain and Europe, and the combination cargo and passenger service of the American Merchant Line from New York to London, completed the disposal of all passenger services of the Shipping Board. There were sold 40 steamers of the



NUMBER, GROSS TONNAGE, AND DESCRIPTION OF VESSELS OF 100 GROSS TONS AND UPWARD, AS RECORDED IN LLOYD'S REGISTER, 1926-27

Flag	Steel and iron			Steam and motor vessels			Total			Steel and iron			Sailing vessels			Total			Grand total		
	Number	Gross tons	Number	Wood and composite	Number	Gross tons	Number	Gross tons	Number	Gross tons	Number	Gross tons	Wood and composite	Number	Gross tons	Number	Gross tons	Number	Gross tons	Number	Gross tons
American (United States):	2,592	11,040,408	523	351,372	3,116	11,391,780	131	233,448	754	739,440	885	972,898	4,001	12,964,668							
Sea	505	2,348,319	38	10,219	505	2,348,319	24	84,730	...	...	...	...	...	...	...	24	84,730	520	2,433,049		
Southern lakes	59	70,825	...	...	97	81,044	...	...	...	...	...	...	...	...	...	...	...	97	81,044		
Philippine Islands	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Total	3,157	13,459,552	561	361,591	3,718	13,821,143	155	318,178	754	739,440	909	1,057,618	4,627	14,878,761							
British:																					
Great Britain and Ireland	7,796	19,236,662	168	27,123	7,964	19,263,785	303	117,824	102	18,188	405	136,012	8,369	19,399,797							
Australia and New Zealand	508	775,386	129	24,391	637	799,777	10	6,901	12	3,434	22	10,335	659	810,112							
Canada:																					
Coast	385	819,615	181	58,901	566	878,516	15	25,590	222	77,859	237	103,449	803	981,965							
Lakes	98	254,307	...	...	98	254,307	2	3,839	...	...	...	...	...	...							
Hongkong	120	286,272	6	2,372	126	288,644	...	...	...	...	...	...	...	...							
India and Ceylon	136	166,670	6	2,274	142	168,944	5	2,380	48	11,939	53	14,319	195	288,644							
Other dominions	330	276,573	60	22,014	390	298,587	31	13,922	173	35,788	204	49,710	594	348,297							
Total	9,373	21,815,385	550	137,075	9,923	21,952,460	366	170,456	557	147,208	923	317,664	10,846	22,270,124							
Argentine	203	211,597	6	4,028	209	215,625	28	17,195	5	2,028	33	19,223	242	234,848							
Belgian	220	502,536	2	547	222	503,083	2	4,161	1	229	3	4,390	225	507,473							
Brazilian	334	462,467	4	2,082	338	464,549	12	9,236	31	9,236	43	17,759	381	482,308							
Chilean	97	154,574	23	9,506	120	164,080	17	12,196	11	3,436	18	15,632	138	179,712							
Chinese	172	287,983	21	8,774	193	296,757	3	8,655	5	2,184	8	3,049	201	299,806							
Cuban	45	52,069	10	1,948	55	54,017	8	5,610	9	2,108	17	7,718	72	61,795							
Danish	616	1,036,147	45	13,239	661	1,049,386	10	9,519	100	22,241	110	31,760	771	1,081,148							
Denmark	36	140,058	...	...	36	140,058	...	...	...	...	...	...	36	140,058							
Dutch	1,055	2,551,639	6	974	1,061	2,552,613	37	9,958	11	2,333	48	12,291	1,109	2,564,904							
Estonian	48	33,337	15	4,196	63	37,533	32	3,754	50	11,168	52	11,492	115	49,005							
Finnish	128	137,013	91	21,015	219	148,028	33	52,948	111	31,816	144	84,764	363	232,792							
French	1,450	3,302,636	48	21,761	1,498	3,324,397	58	103,826	213	62,383	271	166,209	1,769	3,490,606							
German	1,901	3,049,107	27	12,988	1,928	3,062,095	40	44,560	18	4,263	58	48,823	1,986	3,110,918							
Greek	444	917,317	13	4,544	457	921,861	...	...	10	3,083	10	3,083	467	924,944							
Honduran	26	58,490	...	...	26	58,490	...	...	1	58,490	...	...	27	58,601							
Italian	1,016	3,124,612	83	25,634	1,099	3,150,246	21	22,199	281	68,185	302	90,384	1,401	3,240,630							
Japanese	1,512	3,806,380	575	161,237	2,087	3,967,617	...	...	...	...	...	...	2,087	3,967,617							
Latvian	50	59,861	8	1,453	58	61,314	...	...	...	...	...	...	...	...							
Mexican	44	48,223	5	1,889	49	50,112	14	9,084	...	...	...	...	...	...							
Norwegian	1,585	2,748,940	217	57,604	1,802	2,806,544	25	25,430	17	9,931	42	85,361	1,844	2,841,905							
Panaman	17	95,678	3	5,236	20	100,914	...	...	1	671	1	101,585	21	101,585							
Peruvian	27	60,321	1	210	28	60,531	...	...	7	12,833	18	18,537	46	79,068							
Portuguese	170	245,326	15	5,711	185	251,037	6	4,475	94	24,604	100	29,079	285	280,113							
Rumanian	36	68,066	1	107	37	68,173	...	...	...	...	...	...	...	...							
Russian (Soviet Union)	345	313,193	9	1,688	354	314,881	5	6,911	11	1,492	16	8,403	37	68,173							
Spanish	694	1,103,408	108	22,876	802	1,126,284	...	...	113	26,112	122	36,724	924	1,163,008							
Swedish	1,025	1,259,641	180	34,935	1,205	1,294,576	14	9,489	161	34,024	175	43,513	1,380	1,338,089							
Turkish	169	133,038	4	3,268	173	136,306	...	...	1	3,490	1	490	174	136,796							
Uruguayan	42	65,439	7	1,995	49	67,434	5	4,867	9	3,012	14	7,879	63	75,213							
Yugoslavian	132	194,887	4	557	136	195,444	...	...	...	...	...	...	...	...							
Other countries	217	172,784	17	9,723	234	182,507	...	...	...	...	...	...	...	...							
Country not stated	34	57,506	13	14,436	47	71,942	8	19,707	12	4,626	20	18,333	67	90,275							
Total	26,420	61,719,210	2,672	952,727	29,092	62,671,937	880	880,793	2,643	1,231,700	3,533	2,112,433	32,615	64,784,370							

NOTE.—A considerable number of vessels which were not completed appear in this table. Steamers of less than 100 tons gross and sailing vessels of less than 100 tons net are not included. Vessels trading on the Caspian Sea and wood or composite vessels trading on the Great Lakes of North America are not included. In the absence of satisfactory information, the records of most of the sailing vessels belonging to Greece, Turkey, and Southern Russia are omitted from this table. Japanese sailing vessels are not recorded in Lloyd's Register and therefore do not appear in this table. Under the heading "Country not stated" are included all vessels entered in Lloyd's Register without record of flag and under "Other countries" are those vessels about which no definite information has been received up to the time the Register book went to press.

type built on the Great Lakes during the War, for use in coastwise trade, due in large measure to the industrial development in the Southern States. There were sold also 15 ships of the 5000-ton class and 20 ships ranging in size from 7500 to 12,000 tons each, for service in domestic waters. There were 199 vessels, totaling 813,820 dead-weight tons, without market value as commercial carriers, which were sold to the Ford Motor Co. for scrapping.

During 1926 the United States Shipping Board sold 91 cargo ships, aggregating 621,093 dead-weight tons, and 5 passenger vessels, aggregating 70,730 gross tons. The Board also sold five drydocks for a total of \$420,000. The passenger-cargo ships of the American Oriental Mail Line, running between Seattle and the Orient, were sold to the Admiral Oriental Line of Seattle for the sum of \$4,500,000. The America-South Africa Line, with 5 vessels of 42,978 dead-weight tons, was sold to the America-South Africa Line, Inc., for \$777,901. The Pacific, Argentina and Brazil Line, with 6 vessels, aggregating 51,403 dead-weight tons, was sold to a new corporation of this name, for \$295,515. The Board also sold 12 tankers, of which 5 were to be converted to Diesel propulsion. The total tonnage of these tankers was 103,599 and their aggregate cost to their purchasers was \$3,444,452.

During the year the United States Shipping Board was able to supply an extra number of ships for use in exporting from the United States cotton, grain, flour, and other commodities, at a time when the British coal strike had stimulated high rates in the American coal export trade, so that unduly high rates did not prevent the regular and orderly movement of grain and flour to Europe. This movement of wheat and flour was followed by a similar condition in the cotton export trade.

In 1926, aside from the United States Lines, the Government did not directly control the management of the ships, and their actual operation was done by private concerns employed through the Emergency Fleet Corporation. It was proposed during the year that in the future the managing operators' compensation should depend upon the degree of efficiency with which they operated the Shipping Board ships. Minimum commissions would be paid on operation that resulted in maximum losses, and as the losses were reduced the rate of percentage paid to the operators for commissions would increase.

During the year Congress appropriated \$25,000,000 for converting some of the Shipping Board's vessels to Diesel propulsion, and on these craft internal combustion engines were being installed, the *Tampa* and the *West Honaker* being put in service at the end of the year. These new engines increased the speed of the vessels equipped about two knots, but did not bring them up to the standard of the cargo liners of other nations. It was believed that American vessels should be specially designed and equipped with these engines, to compete effectively with the shipping of other nations.

**SHIPWRECKS.** See SAFETY AT SEA.

**SHOES, SHOE INDUSTRY.** See BOOTS AND SHOES.

**SHOOTING.** The Dewar Cup, emblematic of the rifle-shooting championship of the world, was won by a British team in a match at Seagirt, N. J. This marked the first time that

America had lost possession of this trophy since 1912. In another international contest at Bisley, England, the 107th United States Infantry (N.G.N.Y.), defeated the Queen's Westminsters and Civil Service Rifles for the Howard Vincent Shield, thus retaining this trophy.

Trapshooting in the United States was again featured by the Grand American Handicap Tournament, held at Vandalia, Ohio. S. L. Jenny, of Highland, Ill., captured the national amateur championship, winning by a flip of a coin after four shoot-offs had failed to break a tie among the five leaders. The national professional championship was won by Fred S. Tomlin, of Glassboro, N. J., while Mrs. J. C. Wright, of Atlanta, Ga., triumphed in the women's singles. The all-around honors went to Frank M. Troek, of Portland, Ore.

**SHORTER, CLEMENT KING.** British journalist, editor and author, died at Great Missenden, England, November 19. He was born at London, July 19, 1857, and at the age of 20 he worked in the exchequer and audit department of Somerset House, London. He remained in this position until 1890, when he left to act as editor of the *Penny Illustrated Paper*. In 1892, however, he left this paper and was, for 9 years, editor of the *Illustrated London News*. In 1893 he founded for the same company *The Sketch*, a periodical which he edited for 7 years. He also founded *The Sphere* in 1900 and *The Tatler* in 1903. In addition to his editorial writings, Mr. Shorter wrote many books showing his knowledge of the styles and intentions of earlier writers. He was an acknowledged authority on the Brontë sisters; two of his books were *Charlotte Brontë and Her Circle*, (1896), and *Charlotte Brontë and Her Sisters*, (1905). Others among his numerous writings are: *C. K. S., an Autobiography*; (1924); *Napoleon's Fellow Travellers* (1909); the *Complete Works of George Borrow* (1923); and an edition of *Boswell's Johnson* (1922). He was a founder of the Omar Khayyam Club, and a former president of the Johnson Club.

**SHRADHANAND, SWAMI (MUNSHI RAM).** An Indian religious and political leader, was murdered at Delhi, December 23. Born in the Punjab, Jollundur district, in 1855, he was educated at Queen's College, Benares, and for 16 years after his graduation practiced as a pleader in his home town. Early impressed by the views of Swami Deyanand, founder of the Arya Samaj, he eventually joined that movement. Finally, in 1898, his convictions led him to give up legal work and start the Arya Samaj monastic college of Gurukola at Hardwar on the Ganges. He was in active charge of this school from 1902 to 1917, at which time he entered upon a stage of Sanyasi, giving up his house and beginning a purely religious life. For the next two years he preached religious doctrines throughout India and in 1919 he joined the Satyagraha (non-coöperation) movement started by Gandhi, organizing the Delhi hartal. He had a number of differences with the Indian National Congress, his activities leading to a short imprisonment at Amritsar. The Shuddhi movement which caused considerable trouble a few years previously to his death sprang from his conviction that if the Congress wanted home rule, two things were necessary—to destroy the existing educational system and

to accept the depressed classes into the Hindu fold. Accordingly, he began trying at Agra to convert to Hinduism the Malkana Rajputs, a very low order. This caused several riots between Mohammedans and Hindus, and probably was the indirect cause of the death of Shradhanand, as his assailant was said to be a Mohammedan fanatic.

**SIAM**, si-ām'. A monarchy in southeastern Asia, bounded by Burma on the west, French Indo-China on the east, and the Gulf of Siam on the south. Capital, Bangkok.

**AREA, POPULATION, ETC.** The area is estimated at 200,148 square miles and the population, according to the census of 1919-20, 9,207,355; estimated in 1924-25, 9,724,000. Passengers arriving at Bangkok in 1924-25 by sea numbered 85,768, mostly from Hongkong and China; departing, 58,260. Buddhism is the prevailing religion. On Mar. 31, 1925, there were 15,950 Buddhist temples and 127,341 priests. In 1923-24 government schools numbered 353, including 236 secondary departments, with 49,298 pupils (15,792 in secondary classes) and 1829 teachers. There were also 65 special (technical) departments in government schools with 1101 pupils, principally for the training of teachers. Local schools numbered 4377, with 510,663 pupils and 9474 teachers. Private schools numbered 474, with 25,484 pupils and 844 teachers. Over 90 per cent of the local schools and 60 per cent of the government schools are situated in temples. There is a university at Bangkok.

**PRODUCTION.** Agriculture is the principal occupation of the people, and the chief article of food as well as of export is rice. The cultivated area under rice in 1924-25 was 6,632,544 acres and the export 1,114,717 tons. The forest resources are extensive, and teakwood is an important product, the exploitation of which is almost exclusively in the hands of the British. On Mar. 31, 1925, the livestock consisted of 8150 elephants, 231,832 horses and ponies, 3,871,678 bullocks, and 4,131,724 buffaloes. The mineral resources are varied and extensive and include coal, zinc, tin, iron, tungsten, wolfram, manganese, and antimony. The total amount of metallic tin exported in 1924-25 was 10,883 tons.

**COMMERCE.** The larger part of Siam's trade with the world is carried on through the neighboring ports of Singapore and Hongkong, which serve as entrepôts for the transshipment of goods destined for or exported from the kingdom. While the official statistics of Siam reveal movements of goods, they give little indication of the real sources of the country's imports or the ultimate destination of its exports. It may be said in a general way that imports coming from Singapore originate in Europe, especially Great Britain, and those arriving from Hongkong are mainly of Chinese, Japanese, and American origin. Eighty-five per cent of the foreign commerce of Siam passes through the port of Bangkok. The imports in 1925-26 through this port were valued at £14,050,191 and the exports at £15,237,052. The principal imports are cotton goods, foodstuffs, metal manufactures, tobacco, and machinery. The chief exports are rice and teakwood.

**FINANCE.** The following table shows estimates of the 1924-25 and 1925-26 revenues and expenditures:

**SIAMESE ORDINARY REVENUES AND EXPENDITURES, 1924-25 AND 1925-26**

<i>Revenues</i>	1924-25, <i>estimated</i>	1925-26, <i>estimated</i>
	<i>Ticals</i>	<i>Ticals</i>
Government domains .....	5,944,948	6,984,217
Government services .....	14,184,174	16,021,017
Other direct revenue .....	2,913,480	3,005,850
Direct taxes .....	19,008,000	19,629,000
Other taxes .....	21,469,795	22,144,280
Government opium monopoly...	14,057,816	16,814,878
Fees, fines, and licenses .....	6,124,497	6,828,019
Miscellaneous .....	655,935	592,826
Total ordinary revenues ..	84,288,095	91,018,567
Deduction for short collections .	288,095	18,567
Total .....	84,000,000	91,000,000
<i>Expenditures</i>		
Cost of revenue collections ....	5,632,619	5,668,228
Commercial services, working expenses .....	8,990,096	9,644,737
Development .....	3,064,440	3,265,289
Service of debt .....	10,132,465	10,037,967
Civil administration .....	30,146,848	30,393,420
Army, navy, and air force ....	21,800,000	22,400,000
Royal household .....	10,667,714	10,816,227
Currency, mint, and exchange .	555,420	558,284
Pensions .....	1,594,886	1,554,886
Miscellaneous .....	541,200	541,200
Total expenditures chargeable to revenues .....	93,125,688	94,875,238

\* Value of tical = 37.09 cents.

The public debt of Siam as of Mar. 31, 1926, was £12,328,093.

**COMMUNICATIONS.** In 1924-25, 950 vessels of 1,001,119 tons entered and 952 of 1,005,496 tons cleared at the port of Bangkok. On Mar. 31, 1925, 1549 miles of state railway were open for traffic and 348 were under construction.

**GOVERNMENT.** Executive power is vested in the King, who is assisted by a consultative ministry comprising nearly all the King's relatives; and legislative power in a council composed of the state ministers and members appointed by the crown. King, Praja Dhipok, born Nov. 8, 1893, succeeded to the throne on the death of his brother, Rama VI, on Nov. 26, 1925.

**HISTORY.** The only event of interest noted in the press in the course of the year was the fact that the new customs law for Siam went into effect November 15. This law freed the country from an external customs control similar to that which has existed in China for years. The treaties which had controlled Siam's customs lapsed.

**SIBERIA.** The northern Asiatic part of Russia. Area, estimated in 1926 at over 5,000,000 square miles; population in 1924 estimated at 12,800,000. Rich and important as are the mining, forest and fur resources of Siberia, 90 per cent of the population lives in rural districts, and agriculture and the industries allied with it were not only the most important in 1926, but will remain so for a considerable time. It will take much capital not yet available, and a long period of time, to develop Siberia industrially. Siberia is one of the world's important sources of furs, and trapping is of considerable economic importance over large portions of the country, particularly in the forest and tundra region. In some localities it is the chief means of livelihood, while in others it supplements fishing and farming. The development of the mineral wealth of Siberia is second in importance only to the development of its agriculture. Incomplete exploration has revealed

resources that justify expectation that in time the mining industry will occupy an important place in the economic development of Siberia. The industries of Siberia include flour mills, distilleries, breweries, tanneries, and soap and tallow works. See RUSSIA.

**SIBLEY, JOSEPH CROCKER.** American oil pioneer and former congressman, died May 19. He was born at Friendship, N. Y., Feb. 18, 1850, and was educated at the academies in Springville and Friendship, N. Y. He was originally a manufacturer of lubricating oils, but interested himself in many other enterprises. After three years of experimentation he achieved the first successful substitute for petroleum for use in valves and cylinders of steam locomotives. He retired from active business in 1910, and thenceforward gave all his time to the study of soil fertility and experiments thereon, and to the investigation of plant life and its improvement. He was president of the Pennsylvania State Dairymen's Association, and was a member of the State board of agriculture. He was also a trustee of Bucknell University, a director of the American Jersey Cattle Club, and of the Allegheny River Improvement Association. One of his gifts was that of the Sibley Law Library to the Venango County, Pa., Bar Association. He was for some time mayor of Franklin, Pa., and was a member of the 53rd congress, 1893-95, and of the 56th and 57th congresses, 1899-1903, representing the 27th Pennsylvania district. He was a member of the 58th and 59th congresses, 1903-97, for the 28th district.

**SIERRA LEONE.** sê-ër'rá lê-ô'né. A British colony and protectorate on the west coast of Africa; bounded by French Guinea on the north and Liberia on the east and southeast. The approximate area of the colony is 4000 square miles and the population, according to the census of 1921, 85,163, of whom 1161 were Europeans. The chief town is Freetown, with a population in 1921 of 44,142. The birth rate in 1924 was 21.2 per thousand and the death rate 22.7 per thousand, infant mortality being 266 per 1000 registered births. In 1924 there were 111 primary schools, belonging to missionary societies and assisted from public funds, and 15 government primary schools. The average attendance in these 126 schools was 7774. For higher education there is Fourah Bay College, affiliated with the University of Durham. Freetown is the chief seaport in West Africa, being a coaling station and the headquarters of the British Imperial forces in West Africa. Vessels entered and cleared in the foreign trade in 1924 had a tonnage of 3,317,515. The total exports in 1924 amounted to £1,711,438; imports, £1,730,643; revenue, £868,319; expenditure, £777,790; public debt, £1,729,848. The total railway mileage open to traffic, with sidings, was 338 miles.

The protectorate is situated between 6° and 10° N. latitude and 10° and 14° W. longitude, and its greatest extension inland is 180 miles. Area, 27,000 square miles; population, according to the census of 1921, 1,456,148, of whom 1,450,903 were natives. The chief exports are palm kernels, kola nuts, and palm oil. It is divided into three provinces with a European commissioner at the head of each. The governor and commander-in-chief of the colony is also governor of the protectorate. He is assisted by an executive and legislative council. Governor and commander-in-chief in 1926, Sir A. R. Slater.

**SILESIA,** sl-ê'shâ. The term applied to (1) a former division of the Austro-Hungarian Empire; (2) a province of Prussia. The former, previously a crownland of Austria, became after the war a part of the new republic of Czechoslovakia (q.v.). Its area is 1708 square miles; population, according to the census of 1921, 672,268. The province of Silesia in Prussia was originally the largest division of that state, with an area of 15,573 square miles and a population of 5,225,962 in 1910. After a plebiscite in 1921, Upper Silesia was divided between Germany and Poland, leaving under the control of Prussia an area of 14,022 square miles (Upper and Lower Silesia), with a population in 1925 of 4,531,186; and transferring to Poland an area of 1240 square miles, with a population of 891,669 in 1921.

**SILK.** In the United States the consumption of raw silk during the year 1926 was 501,546 bales, and was slightly in excess of that of 1925 when 501,343 bales were absorbed by the various mills. The scale of prices was definitely downward over the greater part of the year and the price situation was influenced by a general deflation taking place in Japan and also by conditions in silver exchange which were felt in China. In manufactures of silk the hosiery mills were active during the year, and, with reduced costs of raw material, they were believed to have made a fair profit. The broad silk mills were not as fortunate, due in a measure to overproduction and sacrifice sales, but there was a strong demand for silk manufactures of all kinds during the year which enabled them to get along without serious losses.

In 1926 the United States imported and used in manufacturing more raw silk than in any other year in the history of the silk industry. Raw silk prices in the New York market had a distinct downward tendency during the year as distinct from the previous year, when fluctuations were comparatively narrow and the trend upward. The decline in prices of Japanese raw silk during the year amounted to approximately 18 to 20 per cent, the downward swing coming after April, with irregular and uncertain conditions prevailing until the middle of November, when a steady decline continued until the end of the year. In China silks the low market was reached in May, from which time there was a recovery until the end of July, at which time a decline set in, but toward the end of the year prices were more stable. Tussah silks showed a gain over the opening of the year, while raw silk imported from Italy showed a decline in value.

The United States imported silks and manufactures of silk to a total value of \$443,245,399, during 1926 as compared with \$445,105,116 in 1925. There was an increase in the amount of raw silk, nearly 66,422,192 pounds, as compared with 1925, when the imports totaled 63,764,361 pounds, but the value in 1926 was \$392,750,684, as compared with \$396,286,471 in 1925. In 1926 there were also imported 11,132,975 pounds of silk waste valued at \$9,808,390, a decline both in amount and value from 1925. The imports of manufactures of silk in 1926 aggregated a value of \$40,569,818, as compared with \$36,719,080 in 1925. The 1926 imports were made up as follows: spun silk, 581,810 pounds, valued at \$1,824,305; broad silks, 3,738,949 pounds, value \$18,626,517; pile fabrics, 428,

**RAW SILK PRODUCTION, INCLUDING TUSSAH SILK**  
*Compiled by the Statistical Bureau of The Silk Association of America*

	1925-26 Pounds	1924-25 Pounds	1923-24 Pounds	1922-23 Pounds
Europe .....	10,626,000	12,533,000	11,519,000	8,841,000
Italy .....	9,883,000	11,585,000	10,803,000	8,234,000
France .....	573,000	789,000	562,000	437,000
Austria .....				
Spain .....	220,000	209,000	154,000	170,000
Levant .....	2,348,000	1,984,000	1,676,000	1,543,000
Asia: Total quantity exported * .....	73,575,000	69,631,000	53,015,000	57,439,000
China, Shanghai .....	9,420,000	8,817,000	8,697,000	8,628,000
China, Canton .....	6,976,000	6,550,000	6,018,000	7,050,000
Japan .....	56,979,000	54,064,000	38,100,000	41,541,000
India .....	200,000	200,000	200,000	220,000
Total, pounds .....	86,549,000	84,148,000	66,210,000	67,823,000
Tussah .....	2,205,000	1,712,000	990,000	2,034,000
Grand total, pounds .....	88,754,000	85,860,000	67,200,000	69,857,000

\* The production of raw silk in China is an unknown quantity.

† Excludes tussah silk.

The domestic consumption of raw silk (including tussah) in China is estimated to be 55 per cent of the production. The exports from Canton and Shanghai during the season 1925-1926 were 18,601,000 pounds, which would indicate a crop of approximately 41,885,000 pounds.

The Japan crop is estimated at 71,000,000 pounds.

317 pounds, valued at \$2,839,394; silk wearing apparel to the value of \$8,334,279; and silk laces and embroideries to \$4,259,412. In 1926 the United States exported silk manufactures to a total amount of \$17,788,377, as compared with \$18,181,846 in 1925. These exports were made up as follows: broad silks, 3,200,825 yards, valued at \$3,860,961; silk wearing apparel, except hosiery, to the value of \$1,710,023; silk hosiery, 960,418 dozen pairs, valued at \$8,995,012.

**SILK, ARTIFICIAL.** See RAYON.

**SILVER.** A number of events combined to reduce the price of silver during the year 1926 and on October 19 silver sold in New York for 51½ cents an ounce, the lowest price touched since Nov. 20, 1915. The principal causes for the decline in the silver market were stated as increased production, internal strife in China, and the report of the Royal Commission on Indian Currency and Finance. (See INDIA.) The world's production in 1926 was estimated at 241,600,000 ounces by Handy and Harman, New York, and at 246,000,000 ounces by *Engineering and Mining Journal* in its annual Review. The accompanying table from the *Journal* gives the world's production of silver over recent years.

In the first half of 1926 a price of over 65 cents an ounce stimulated activity in silver mines the world over, but in the latter half of the year the price decline was felt, particularly in Mexico, though the production in Canada increased and also that of South America.

tion of silver in the United States during the calendar year 1926:

**PRODUCTION OF SILVER IN THE UNITED STATES IN 1926**

*(Arrivals at United States Mints and Assay Offices and at private refineries)*

States	Ounces	Value *
Alaska .....	641,080	\$400,034
Arizona .....	7,507,798	4,684,866
California .....	1,974,556	1,232,123
Colorado .....	4,637,114	2,893,559
Georgia .....	10	6
Idaho .....	7,556,764	4,715,421
Illinois .....	3,150	1,966
Michigan .....	110,022	68,654
Missouri .....	70,508	43,997
Montana .....	12,498,246	7,798,906
Nevada .....	6,313,622	3,939,700
New Mexico .....	538,966	336,315
North Carolina .....	20	13
Oregon .....	27,412	17,105
Pennsylvania .....	544	340
South Dakota .....	83,120	51,867
South Carolina .....		
Tennessee .....	106,344	66,359
Texas .....	449,985	280,791
Utah .....	19,299,533	12,042,909
Vermont .....	1,750	1,092
Virginia .....		
Washington .....	163,678	102,185
Philippine Islands .....	44,778	27,942
Totals .....	62,029,000	38,706,100

\* Value at 62.4c. per ounce, the average New York price of bar silver.

The silver production of 1926 was less than that of 1925 by about 4,126,000 ounces; 1915

**WORLD'S PRODUCTION OF SILVER \***  
*[In troy ounces]*

Source	1922	1923	1924	1925	1926
United States .....	56,240,049	66,168,838	64,221,655	61,377,977	62,000,000
Canada .....	18,626,489	18,601,744	20,243,846	20,003,970	22,000,000
Mexico .....	81,076,899	90,810,855	91,437,944	92,885,176	94,000,000
Peru .....	13,169,765	18,645,862	18,800,000	21,253,000	20,000,000
Rest of world .....	41,420,851	45,821,715	46,232,244	46,054,971	48,000,000
Total .....	210,538,502	240,052,014	240,935,689	241,575,094	246,000,000

\* Figures prior to 1926 from American Bureau of Metal Statistics; those for 1926 estimated from the Bureau's figures and other data.

The Bureau of the Mint of the U. S. Treasury Department, with the cooperation of the Bureau of Mines, has issued the following statement of the preliminary estimate of refinery produc-

was the year of the greatest output of silver ever recorded for the United States according to the Director of the Mint, 74,961,075 ounces having been produced that year.

**SIMMONS COLLEGE.** A non-sectarian college for women at Boston, Mass.; founded in 1899. The enrollment for the autumn of 1926, on November 1, was 1400, distributed as follows: household economics, 305, secretarial studies, 462; library science, 197; general science, 60; social work, 149; store service education, 61; public health nursing, 163; students in economic research, 3. There were 232 registered in the 1926 summer session. The faculty numbered 122 active members, and 5 on leave of absence. The productive funds of the institution amounted to \$3,286,747.75, and the income for the year to \$449,509.63. The library contained 39,600 volumes. President, Henry Lefavour, Ph.D., LL.D.

**SIMON, HENRI.** French statesman and president of the French Chamber's commission on finance, died in Paris, December 2. He was born in 1874, and in early life studied law but became a manufacturer. He soon took an interest in political affairs, and after his election to the Conseil General he obtained, in 1910, for the first time, a seat in the Chamber. He sat as a deputy for the Department of Tarn, and belonged to the Radical Socialist group. He became a member of the French Government in the later war period, when Clémenceau made him colonial minister. He at once effected important reforms, changing appointments as governor as occasion demanded and sending M. Jonnart as governor to Algeria. Owing to his experience in law and finance, M. Simon was elected a member of the Caillaux debt mission to the United States.

**SINGAPORE.** See STRAITS SETTLEMENTS.

**SINGING.** See MUSIC.

**SINGMASTER, JOHN ALDEN.** American theologian, died February 27. He was born at Macungie, Lehigh County, Pa., Aug. 31, 1852, and took his A.B. degree at Pennsylvania College, Gettysburg, in 1873. He was ordained to the Lutheran ministry in 1875, and was graduated from the Lutheran Theological Seminary in 1876. From 1876 to 1882 he was pastor at Schuylkill Haven, Pa., leaving to take up the pastorate at Macungie, Pa., where he remained until 1886. From 1900 he was associated again with the Lutheran Theological Seminary, first as professor of Biblical theology, 1900-1903, then as professor of systematic theology, 1903 onward, becoming president of the seminary in 1906. He was senior editor of the *Lutheran Quarterly*, of Gettysburg, and was president of the General Synod of the Evangelical Lutheran Church in the United States, in 1915. He was one of the founders of the United Lutheran Church in America, in 1918, and most of his work was directed toward the accomplishment of denominational unity. From 1887-1890 he was in Brooklyn, N. Y.; from 1890-1900 in Allentown, Pa. In 1894 he received the degree of Doctor of Divinity from Pennsylvania College, and in 1920 that of LL.D. from the same institution.

**SISTERMANS, ANTON.** Dutch basso, died at The Hague, February 6. He was born at s'Hertogenbosch, Aug. 5, 1865. In 1890 he abandoned a business career in Rotterdam and began his vocal education under Stockhausen in Frankfurt. After only six months of study he made a brilliant début in Verdi's *Requiem* at Strassburg, 1891, but continued his work under Stockhausen for four years. From 1895 on he appeared in all the important cities of Germany, where he was regarded as one of the very greatest of oratorio and lieder singers. The stage

never attracted him, although in the summer of 1899 he won great applause for his splendid interpretation of the rôle of Pogner in *Die Meistersinger* at Bayreuth. From 1904-17 he lived in Berlin as a teacher, highly esteemed as an exponent of the Stockhausen method. From 1917 until his death he had charge of the opera class at the royal conservatory at The Hague.

**SKATING.** Charles Gorman, of St. John, N. B., won the world's amateur ice-skating championship in 1926, succeeding as title holder Clas Thunberg, of Finland, who had captured the Olympic championship in 1924. The meet in which the title was won was held at St. John, Gorman scoring a total of 140 points. Thunberg tallied only 10 points, finishing in sixth place. Thunberg also made a poor showing in his first indoor appearances in New York City, but later, at the annual meeting of the Board of Control of the International Skating Union, held at Detroit, Mich., he set five new outdoor records. O'Neill O'Farrell, of Toronto, Canada, won the United States national outdoor championship, while E. Myers took the indoor title. The women's championship went to Miss Leila Brooks, of Toronto, who also was credited with two outdoor records, 1 minute 36 seconds for the half mile and 44 $\frac{3}{4}$  seconds for 440 yards. Miss Elsie Muller, of New York City, set two new indoor marks, skating 220 yards in .223 $\frac{3}{4}$  seconds and 440 yards in 45 $\frac{3}{4}$  seconds, turning in both performances on the same day.

**SKYSCRAPERS.** See ARCHITECTURE.

**SLATE.** The value of the slate sold at the quarries of the United States in 1926 was \$12,030,000, or 4 per cent less than the value reported for 1925, according to estimates compiled by the U. S. Bureau of Mines. Slate reported sold for electrical, structural and sanitary, and miscellaneous uses (chiefly flagstones) showed increase in both quantity and value, while the other products decreased. Roofing slate sold amounted to 455,000 squares, valued at \$4,832,000, a decrease of 8 per cent in quantity and 5 per cent in value. There was an increase of 34 cents in the average value per square. The total sales of mill stock amounted to 9,831,000 square feet, valued at \$4,084,000, a decrease of 11 per cent in quantity and 3 per cent in value. Sales of structural slate—2,410,000 square feet, valued at \$937,000—increased 3 per cent in quantity and 9 per cent in value. Sales of electrical slate, estimated at 1,872,000 square feet, valued at \$1,565,000, increased 13 per cent in quantity and 14 per cent in value. Sales of mill stock for blackboards, which was the only variety of mill product that showed increased sales in 1925, decreased 27 per cent in quantity and 23 per cent in value in 1926. The estimated output was 3,760,000 square feet, valued at \$1,298,000. The sales of crushed slate for roofing granules and flour in 1926 was estimated at 495,700 short tons, valued at \$3,034,000, which was practically the same quantity as in 1925. The average value per ton was lower than in 1925.

**SLAVIC STUDIES.** See PHILOLOGY, MODERN.

**SLEEPING SICKNESS.** See SMALL POX AND VACCINATION.

**SMALL, ALBION WOODBURY.** American sociologist, died March 24. He was born at Buckfield, Maine, May 11, 1854, and graduated from Colby College in 1876. He then went to the Newton Theological Institute, 1876-79, and

studied also at the Universities of Berlin and Leipzig, 1879-1881. In 1881 he returned to become professor of history and political economy at Colby College, in which capacity he remained until 1888. He then became reader in history at Johns Hopkins University, 1888-89, and in 1889 he received from that institution the degree of doctor of philosophy. From 1889 to 1892 he was president of Colby College. In 1892 he went to the University of Chicago as head of the department of sociology, and in 1900 he was given the degree of LL.D. by Colby. In 1905 he became dean of the graduate school of arts and literature, University of Chicago, holding that position when he died. From 1895 he was the editor of *The American Journal of Sociology*; among his published works are: *General Sociology* (1905); *Adam Smith and Modern Sociology* (1907); *The Meaning of Social Science* (1910), and many articles in journals and magazines.

**SMALL POX AND VACCINATION.** Beginning some time in 1925, physicians in Holland, Germany, and Switzerland reported to the proper health authorities that scattered cases of cerebral disease had developed during the first week after vaccination, and that contaminated lymph could not be accused. The total number was not large, not over fifty, and was scattered over a very wide area. From the resemblance to lethargic encephalitis, it was at first thought that children about to develop this malady had been vaccinated during the incubation period, so that nothing more than a coincidence was involved. A modified view was that the victims harbored the germs of the disease in question, and that the shock of vaccination had precipitated the outbreak. Since the flurry of cases soon subsided, little chance was given for a study of the disease. Medical societies and health boards began an investigation in the affected localities, and, pending reports, orders were issued to dilute the lymph considerably more than usual and to refrain, for the time being, from vaccinating all ailing and delicate children.

Thus far, no reports on these cases seem to have been made in the countries affected, but in April, 1926, the attention of the ministry of health of Great Britain was called to the subject. Although no cases had been reported for that country, an investigation of past records was ordered. The report of this investigation is found in the *Lancet* for September 4. All deaths following vaccination were subjected to inquiry for years back. It was found that during the past 14 years 7 such cases had come to light in Great Britain. These are reported in full in the *British Journal of Experimental Pathology* for October. The disease was described as encephalomyelitis, and there is no connection apparent between this affection on the one hand and epidemic encephalitis or poliomyelitis on the other. A crucial point was the possibility that this affection may complicate small pox; in such case there is the greater likelihood of it as a result of vaccination. The investigation then turned to small pox, and the report states that encephalomyelitis, while a very rare complication, has sometimes developed as a result of the disease.

For the past ten years, lethargic encephalitis, or "sleeping sickness," has appeared in most of the countries of the world, and is practically

a new disease. This, in the opinion of many, indicates a lowered resistance of the brain tissues to certain infections. If the brain of civilized man is becoming more vulnerable in this respect, it may throw a little light on these cases.

**SMITH, EDMUND MUNROE.** American jurist, died in New York, April 13. He was born at Brooklyn, N. Y., Dec. 8, 1854, and graduated from Amherst College, in 1874. In 1877 he took the LL.B. degree at Columbia University, having studied law under Professor Dwight. He then went abroad and took the J.U.D. degree at the University of Göttingen. In 1880 he was made instructor of history at Columbia, and on the creation of a professorship of Roman law and comparative jurisprudence in 1883, Mr. Smith became the first incumbent. He had given special attention for some years to the subject of legal history, and in 1891 he was made Bryce Professor of European Legal History. When in 1886 it was decided to inaugurate the *Political Science Quarterly*, Professor Munroe Smith was made its first editor. In 1904 Columbia University conferred upon him the honorary degree of Doctor of Laws, and Amherst College gave him the same honor in 1916. In appreciation of his services to legal history, the University of Louvain made him a Doctor of Jurisprudence in 1909. Professor Munroe Smith was for 45 years a member of the Columbia faculty and he resigned the professorship of Roman Law and comparative jurisprudence in 1922. He wrote *Bismarck and German Unity* (1898, 3d edition 1923), and after the outbreak of the World War, *Out of Their Own Mouths* (1917) and *Militarism and Statecraft* (1918).

**SMITH, ERNEST ASHTON.** American educator and president elect of Toledo University, died December 28, at Piqua, Ohio. He was born in Ohio in 1868, and after attending school in Piqua, O., entered Ohio Wesleyan University in 1884, where he graduated in 1888. Later he studied and received degrees at Johns Hopkins and Oxford Universities. From 1910 to 1913, he was assistant professor at Princeton University and in the latter year went to Allegheny College as professor, serving until 1916. Professor Smith was superintendent of schools in Salt Lake City, Utah, 1916-20 and at Evanston, Ill., from 1920 to 1925. He was president of the State Normal School at Lacrosse, Wis. He had been appointed president of Toledo University, and was to have taken up his duties at the end of the holidays in which his death occurred.

**SMITH, MERRITT HAVILAND.** American civil engineer and chief engineer of the Department of Water Supply, New York City, died December 9, in New York, N. Y. He was born in New York, in 1862, and was graduated from the Pennsylvania Military College in 1880 with the degree of civil engineer. In 1884 he entered the service of New York City, and the greater part of his life was spent in city engineering work, largely in connection with the old and new Croton Aqueducts and the Catskill Aqueduct. He had been since 1914 Chief Engineer of the Bureau of Water Supply. He served in the Spanish-American War in 1898 in Porto Rico and on the Mexican border in 1916 with the New York National Guard, being Colonel of the First Field Artillery. He served overseas with



the 104th Field Artillery in 1918-19, taking part in the Meuse-Argonne offensive.

**SMITH, OBERLIN.** American engineer and inventor, died July 19, at Bridgeton, N. J. He was born at Cincinnati, Ohio, Mar. 22, 1840, but soon after was brought to Bridgeton, N. J. He was educated at the West Jersey Academy, in that town, and at the Polytechnic Institute, Philadelphia, Pa. In 1863 he started the business later known as the Ferracute Machine Works, inventing and designing the products of the company. He invented and patented 52 presses and dies, extensively used in the machine shops. Among his inventions were the dies from which Chinese money was stamped. Mr. Smith was at one time president of the American Society of Mechanical Engineers. In 1896 he published his *Press Working of Metals*, and *The Material, Why Not Immortal?* appeared in 1920.

**SMITH, SIDNEY IRVING.** American biologist and anatomist, died May 7. He was born at Norway, Me., Feb. 18, 1843, and studied at the Sheffield Scientific School of Yale University, graduating in 1867. From 1867 to 1875 he was assistant in zoology at Sheffield, becoming professor of comparative anatomy there in 1875, serving until 1906, when he was made professor emeritus. He was in charge of the deep-water dredging on Lake Superior for the United States Lake Survey in 1871, and for the United States Coast Survey about St. George's Banks, in 1872. For many years he was engaged in biological work with the United States Fish Commission. Since 1884 he had been a member of the National Academy of Sciences. His research work was hampered by blindness which supervened some years before his death.

**SMITH COLLEGE.** A non-sectarian college for women at Northampton, Mass.; founded in 1871. The enrollment for the autumn of 1926 was 2136, including 65 graduate and 4 non-collegiate students. There were 204 faculty members. The productive funds amounted to \$4,660,688.18, and the income from these funds to \$275,801.72. Three new dormitories and the Tryon art gallery were opened for use in September of 1926, completing the quadrangle. Spending the year in study in France were 34 members of the junior class. The library contained approximately 130,000 volumes. President, William Allan Neilson, Ph.D., L.H.D., LL.D.

**SMITHSONIAN ASTROPHYSICAL OBSERVATORY.** See **ASTRONOMY**.

**SMITHSONIAN INSTITUTION.** An organization founded in 1846, according to the terms of the will of James Smithson of England, who, in 1826, bequeathed his property to the United States of America to "found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." In receiving the property and accepting the trust, Congress determined that the Federal Government was without authority to administer the trust directly, and therefore constituted an "establishment" whose statutory members are the President, the Vice President, the Chief Justice, and the heads of the executive departments. The affairs of the Institution are administered by a Board of Regents, whose membership consists of the Vice President, the Chief Justice, three members of the Senate, and three members of the House of Representatives, together with six

other persons, other than members of Congress, two to be residents of Washington and the other four citizens of four different States. The Chancellor of the Institution in 1926 was Chief Justice Taft. The Institution administers for the Government the following bureaus: The National Museum, the National Gallery of Art, the Freer Gallery of Art, the Bureau of American Ethnology, the International Exchange Service, the National Zoological Park, the Astrophysical Observatory, and the United States Regional Bureau of the International Catalogue of Scientific Literature.

The two outstanding researches in progress during the year were the geological and paleontological studies of the Canadian Rocky Mountain region which had been conducted by Dr. Charles D. Walcott for 20 years, and the study of the radiation of the sun and its relation to weather on the earth by Assistant Secretary C. G. Abbot. Many other researches in various phases of geology, biology, anthropology, and astrophysics are carried on under the direction of the Institution.

During 1926, the Institution sent out or cooperated in 35 field expeditions in various parts of the world in the interests of astrophysics, geology, paleontology, archaeology, biology, including zoology and botany, and ethnology, resulting in important additions to knowledge and accessions of valuable material to the great collections of the National Museum. These expeditions not only visited various parts of the United States, including Alaska, but also Canada, South and Central America, Africa, Europe, China, Sumatra, Siam, and the West Indies.

The publications of the Institution, issued in eleven series, are its principal means of carrying out its purpose of the "diffusion of knowledge." These publications have a widespread circulation. The *Smithsonian Annual Reports* contain special articles presenting in readable form progress and interesting developments in all branches of science. During 1926 there were issued 88 volumes and pamphlets, of which 168,932 copies were distributed to libraries, colleges and universities and other educational institutions, and individuals.

The income of the Institution, averaging about \$65,000, is derived from the interest on its endowed funds, which in 1926 amounted to a little over a million dollars. It is also charged by Congress with the disbursement of the government appropriations for the support of the bureaus under its administrative charge. The secretary of the Institution in 1926 was Dr. Charles D. Walcott and the assistant secretaries were Dr. C. G. Abbot and Dr. Alexander Wetmore. The officers in charge of the bureaus under the direction of the Institution were as follows: National Museum, Alexander Wetmore, Assistant Secretary in Charge; National Gallery of Art, W. H. Holmes, Director; Freer Gallery of Art, J. E. Lodge, Curator; Bureau of American Ethnology, J. Walter Fewkes, Chief; International Exchange Service, C. G. Abbot, Assistant Secretary in Charge; National Zoological Park, W. M. Mann, Director; Astrophysical Observatory, C. G. Abbot, Director; U. S. Regional Bureau of the International Catalogue of Scientific Literature, L. C. Gunnell, Assistant in Charge.

**SNOW REMOVAL.** See **ROADS AND PAVEMENTS**.

**SOAPSTONE.** See **TALC AND SOAPSTONE**.



**SOCCER.** Many international contests served to inspire increased interest in soccer in 1926. The Sparta eleven from Prague, Czecho-Slovakia, visited the United States and engaged in a large number of games against leading American teams in the Eastern and mid-Western states. The invaders displayed a high brand of play, and succeeded in capturing considerably more contests than they lost. A team from Worcester, Mass., lost a series of games played in England to the Worcestershire soccer men, and a return series was to be contested in the United States in 1927. The Bethlehem Steel eleven won the National Challenge Cup, carrying with it the United States Football Association championship. The steelmen defeated the Ben Miller Football Club of St. Louis, Mo., in the final game played at Ebbets Field, Brooklyn, N. Y., by a score of 7 to 2. Fall River, for the third successive year, captured the American Soccer League title. Princeton retained its championship crown in the intercollegiate league.

**SOCIAL DEVELOPMENTS.** See **ANTHROPOLOGY**.

**SOCIAL ECONOMICS.** See **CHILD LABOR**; **COÖPERATION**; **LABOR LEGISLATION**; **MATERNITY PROTECTION**; **MINIMUM WAGE**; **OLD-AGE PENSIONS**; **STRIKES AND LOCKOUTS**; also **LITERATURE, ENGLISH AND AMERICAN**.

**SOCIAL INSURANCE.** See **WORKMAN'S COMPENSATION**; **MATERNITY PROTECTION**; **OLD-AGE PENSIONS**.

**SOCIALISM.** The action of the international Socialist movement continued to be divided. On the one hand, the parties and trade unions affiliated with the Labor and Socialist (or Second) International exercised a moderate influence in the direction of liberal and radical legislation, and seconded the work of the International Labor Organization at Geneva. The Communist (or Third) International Organization, however, kept up its subversive and revolutionary policies, although it was much weakened by the political overturn within the Communist Party in Russia. A motion to bring together the two organizations on a common platform was overwhelmingly defeated at a conference of the Labor and Socialist International at Zurich. The unity plan had the support of the British Independent Labor Party, but it was strenuously opposed by the delegate from the regular British Labor Party.

The Labor and Socialist International convoked a congress on world migration, a report on which is given below. In addition, it had several executive conferences, and it took action to support the British general strike. This action was chiefly moral, except for the contributions which the European trade unions voted on their own account, and it contrasted sharply with the policy of the Third International. The latter organization offered a big subsidy to the general strike committee, which refused to accept it. The money thereupon was given to the striking British miners, enabling them to prolong their strike. A report of the November meeting of the presidium of the Communist International (based upon a dispatch to the *New York Times*) is given below.

**WORLD MIGRATION CONGRESS.** One hundred and twenty delegates, representing 15,000,000 trade unionists and 25,000,000 voters, attended the congress on workers' migration summoned by the Labor and Socialist International. The

congress was held in London, June 22 to 25. The congress split on the fundamental question of the freedom of migration. While the delegates from such countries as Great Britain, Germany, Italy, Austria, and Poland championed the cause of free migration—with due weight to economic considerations—the delegates from the newer countries, particularly from Australia, Canada, and New Zealand, insisted on the right of each country to decide the question of immigration for itself. The doctrine of a "white" Australia was stoutly upheld by Prime Minister Bruce of Australia, and his stand was responsible for the defeat of the following resolution, introduced by Dr. Friedrich Adler of Vienna and supported by the European group: "The congress holds firmly to the principle of freedom of movement. There must be no restriction of such movement for political reasons. Economic influences may, however, temporarily restrict immigration."

The resolutions that the congress actually adopted were much more moderate in tone. These resolutions were preceded with a preamble explaining that the present rush of workers to economically favored countries was the result of the failure of the demand in world markets to keep up with the increase in the rate of production, thus producing unemployment as well as huge surplus stocks of goods. The transfer of workers, the congress believed, was no real solution of the problem, and such a transfer was moreover recognized as a potential menace to the labor and living standards of the more fortunate countries.

**COMMUNIST INTERNATIONAL.** Gregory Zinovieff, head of the Communist International since its inception, and partisan of world revolution, resigned his position on October 23. His resignation was simultaneous with the ousting of Leon Trotsky and Leon Kamenef from the political bureau of the Russian Communist Party, and reflects a change of policy on the part of the governing group in Soviet Russia. Soviet policy was being dictated by Stalin, who, both in national and international questions, was inclined to practical opportunism while maintaining unchanged the letter of orthodox doctrine. In practice, therefore, a moderation of Communist international policy was to be expected.

**UNITED STATES.** The action of the Socialist Party in the United States continued to be politically negligible. In the New York gubernatorial election, Mr. Thomas polled about 50,000 votes. Congressman Berger of Milwaukee was re-elected to his office, and remained the only Socialist in that body. The Workers' Party or Communist group continued its attempts to "bore in" within the ranks of American labor unions. For an account of these activities, see under **STRIKES**.

**SOCIAL PROGRESS, INTERNATIONAL ASSOCIATION FOR.** Forward looking action was taken on a number of pressing issues in the field of protective labor legislation, at the first meeting of the International Association for Social Progress, held at Montreux, Switzerland, Sept. 22-24, 1926. This international association, of which the Association for Labor Legislation is the American section, was created in 1925, it will be remembered, by amalgamating three former allied organizations, the International Association for Labor Legislation, the Interna-

tional Association on Unemployment and the International Social Insurance Committee.

Eight questions were included in the agenda of the Montreux meeting: 1, The legal situation of salaried employees; 2, accident prevention; 3, credit control as a means of preventing periodical unemployment crises; 4, public-works programme as a method of combating unemployment; 5, international transfer of rights acquired in connection with social insurance; 6, the cost of social insurance; 7, the legal situation of foreign workers; 8, the cost of social legislation. Seventeen countries were represented by delegates from national sections of the association. In addition, the governments of 10 of these countries sent representatives, and the official International Labor Office at Geneva was represented by its director. The meeting urged intensive work to bring about unconditional ratification by all countries of the convention adopted by the various sessions of the official International Labor Conference, particularly the convention for the eight-hour day.

**PROTECTION OF SALARIED EMPLOYEES.** Confirming a resolution adopted in 1922 by the International Association for Labor Legislation calling for an inquiry into the situation of salaried employees in private undertakings, the meeting declared that the results of this inquiry "prove that the protection of salaried employees is more than ever necessary." It urged that all international conventions and recommendations, "existing or to be adopted in the future," should apply as far as possible to salaried employees as well as to other classes of workers, and that the International Labor Office should endeavor to carry out this policy. It called for regulation of working hours of these employees, including the eight-hour day and one day of rest in seven. "Women employees," the resolution declares, "should not be dismissed as a result of any interruption in their work caused by pregnancy or childbirth. When the contract of service is denounced by the employer within the period from six weeks before to six weeks after childbirth, it should not actually terminate until eight weeks after childbirth. The Washington convention on the subject should be amended in this sense."

Subjects of new national and international regulations for salaried employees put forward include the abolition of agreements forbidding an employee in leaving one employer to accept a position with a competitor; and standards for paid holidays, for payment of wages when the employee is prevented from doing his work through no fault of his own, for notices of dismissal and resignation, for indemnity for cancellation of contracts, and protection of inventors. The meeting voted to continue the inquiry undertaken in 1922 with a view to securing documentary information on the following questions: 1, methods of combating unemployment among salaried employees (relief for the unemployed, employment exchanges, occupational reeducation, protection of aged employees, emigration, etc.); 2, protection of apprentices and occupational training; 3, protection for inventions made by employees; 4, privileges in the event of bankruptcy or liquidation; 5, Labor inspection and control of the protection of employees, and 6, reciprocity in regard to social insurance.

**PREVENTION OF INDUSTRIAL ACCIDENTS.** A reso-

lution was adopted requesting the International Labor Office to continue its work for accident prevention, with especial attention to automatic couplings on railways, substitution of round for square shafts on planing machines in the wood industry, and safeguards against coal-mine accidents, such as use of electric lamps; and rock dusting of mines to prevent disasters due to coal-dust explosions. National sections of the association are asked to study the progress made in these directions in their respective countries.

**INTERNATIONAL TRANSFER OF SOCIAL INSURANCE RIGHTS.** Urging universal adoption of social insurance measures to protect employees "against loss of capacity to work or earn a living," the meeting declared that "it is of special importance, under post-war conditions, to allow insured persons passing from one country to another to preserve the rights in this connection which they have acquired or are in course of acquiring." Principles are suggested on which special bilateral treaties between countries should be based, where necessary to insure "equality of treatment" to such insured persons.

**THE COST OF SOCIAL INSURANCE.** Declaring that "the association sees in social insurance the best method of guaranteeing wage earners against the vicissitudes of life," a resolution pledges coöperation with the International Labor Office in calculating the "social charges" in the various countries. In some quarters, it is noted, there is a demand for a reduction of "social charges"—expenditures made to protect workers against hazards of earning their own living and expenses incurred with a view to securing the livelihood of large families—and "this idea of 'social charges' is spreading from one country to another, and the sense given to it makes it a danger for social insurance." But, the association points out: "In calculating social charges, account should be taken of other forms of social relief granted to wage earners under a labor agreement or in virtue of legislation. It is of importance in this connection that, for each risk separately, account should be taken of benefits in cash, benefits in kind, and preventive measures. Family charges should also be considered. The association declares its intention of using the results obtained by the International Labor Office, of comparing them as between one country and another, and of showing their intrinsic value." The association "considers it of real urgency that large families should be protected by a system of insurance which takes account of their requirements."

**INTERNATIONAL CREDIT CONTROL.** Following the publication in the journal of the association of the report and conclusions prepared by Max Lazard on international credit control for the purpose of preventing periodical crises of over-production and unemployment, a special committee will study the subject further, and the association will take up the question again at a later session.

**PUBLIC WORKS AND UNEMPLOYMENT.** The association recommends that "wherever it has not already been done, independent and permanent organizations of experts should be set up" to collaborate with the authorities concerned in promoting the long-range advance planning of public works as an aid in stabilizing employment. The association holds: "In order to attain the object sought, and with a view to

legislative regulation of the question, public opinion should be instructed on the possibilities of alleviating fluctuations in the labor market by a systematic and rational distribution of public works. Public opinion must be made to understand that if this work is better distributed between busy and slack periods, it will cost less and will be more productive."

The association publishes a periodical, *L'Avenir du Travail*, edited by Dr. Stephane Bauer, at the international headquarters at Basle, Switzerland.

**SOCIAL PSYCHOLOGY.** See PSYCHOLOGY, under *Social Psychology*.

**SOCIAL WORKS.** See WELFARE WORK.

**SOCIETY ISLANDS.** See OCEANIA, FRENCH ESTABLISHMENTS IN.

**SOCIETY OF CHEMICAL INDUSTRY.** See CHEMISTRY, INDUSTRIAL.

**SOILS.** More efficient crop production is the primary purpose of soil investigation and improvement. With this purpose in view, unusual efforts were being made so to adjust soil and crop that there might be a larger and better product from fewer acres, with lower cost of production. It has been made clear that efficient production depends not so much upon extension of the cropped area as upon better utilization of the tillable lands available, the full capacity of which for profitable production has by no means been reached or even approached. Investigations recently reported by the United States Department of Agriculture indicated that farm lands in the older sections of the country were not on the average declining in productiveness, but were actually increasing in average yield per acre of certain staple crops. This justified the extension and intensification of the effort to get a larger and better product per acre as well as per man. And this was further justified by the fact that cost of production usually varies inversely with yield per acre.

The soil surveys were being supplemented with an increasing number of crop and fertilizer experiments on the various soil types, to find what should be done to fit them for the crops it was desired to grow. A study made by the United States Bureau of Soils of long-continued soil fertility experiments in the United States and England indicated that crop rotation, especially one including a legume, was a very effective means of maintaining an increasing yield of cereals, and that the effect of rotation was increased by the use of commercial fertilizer and also by liming in the case of acid soils. The world-wide search, led by Great Britain, for additional lands suitable for cotton culture was continued. While large areas suited as regards climate and soil conditions had been found in the Sudan, India, South Africa, and elsewhere, their remoteness, the scarcity of labor, and other unfavorable conditions, seemed likely to preclude their rapid or complete development.

The systematic and country-wide survey of the United States was continued by the Bureau of Soils. Detailed surveys of 15,500,160 acres and reconnaissance surveys of 2,744,960 acres were completed during the year, making the total area covered in 1926 by detailed surveys 453,548,800 acres and by reconnaissance surveys 367,527,680 acres. Besides these regular surveys, special studies were made of certain fruit and nut soils of California, melon and vegetable producing soils in Arizona, tobacco and cane soils in

Cuba, and others. Die-back, responsible for the destruction of orchards in one of the important prune-growing districts of California, was found to be associated with decidedly calcareous subsoils. The quality of the soils producing the best Cuban tobacco was determined, and it was found that they resembled closely some of the soils of the Atlantic and Gulf coastal plains of the southern United States. The tropical soils showed high friability, low shrinking and swelling qualities, excellent porosity, and strong resistance to erosion.

A simple test for determining the fertilizer requirements of corn on different kinds of soil was announced during the year. In this test, proposed by G. N. Hoffer of the Indiana Experiment Station, the need of nitrogen fertilizer was determined by splitting lengthwise a stalk cut after the ears are well developed, and applying a solution of sulphuric acid containing a few drops of diphenylamine to the cut surface. If the plant has had sufficient nitrogen the tissues will turn blue. If there has been an insufficiency of nitrogen the tissues will be of a yellow-green color. A lack of potassium is detected by red coloration when a solution of potassium thiocyanate is applied to the tissues of the nodes or joints of the stalk. Use of the test in a field survey in several States of the corn belt indicated a lack of available potash in many fields in southern Illinois, Indiana, and Ohio.

Investigations on toxic substances in soil indicated that while these might occur as a result of unfavorable reaction, unsuitable nutrients, and inadequate aeration, organisms were generally present which eventually destroyed the toxins unless the soil conditions were continuously unfavorable. Study of the nature and functions of soil colloids, especially in their relation to the moisture and plant-food supply of soils and to tilth and the operation of tillage implements, was receiving increased attention. Since the nature of the colloids present was found to determine to a considerable extent the productiveness of the soil, it was important to know the kind of colloids in different types of soil. The Bureau of Soils proposed a water-vapor adsorption method for determining both the kind and quantity of colloid in a soil.

Agricultural engineers gave much attention to soil dynamics, especially with reference to tillage, with the indication that through such studies the necessary tillage operations might be simplified without loss of efficiency, and tillage implements improved.

**SOLDIERS' ADJUSTED COMPENSATION.** See UNITED STATES.

**SOMALI COAST.** See FRENCH SOMALI COAST.

**SOMALILAND, ITALIAN.** See ITALIAN SOMALILAND.

**SOMALILAND, s6-mä'lä-länd, PROTECTORATE.** A protectorate belonging to Great Britain on the Gulf of Aden, bounded by Italian Somaliland, Abyssinia, and the French Somali coast. Area, about 68,000 square miles; population estimated at 344,000, nearly all Mohammedan and entirely nomadic except on the coast where permanent settlements have been made. The chief town is Berbera, with 30,000 inhabitants, at the census of 1921. Other towns are Lulhar, with 7300, and Zeyla, with 7000. The main source of wealth in the interior is stock raising. The principal imports are dates, sugar, textiles, rice, and specie, and the principal ex-

ports are hides and skins, gums and resins, cattle and sheep, and glue. The only forms of transport are by camel and motor car. The government is under the British Colonial Office, which is represented by a local governor and commander-in-chief. Governor, H. B. Kittermaster, appointed Jan. 28, 1926.

**SONG RECITALS.** See MUSIC.

**SOUTH, UNIVERSITY OF THE.** A Protestant Episcopal institution of higher education at Swannee, Tenn.; founded in 1857. The enrollment for the fall term of 1926 was 294, of whom 277 were registered in the college and 19 in the theological school. There were 43 students in the summer quarter, 27 of whom returned for the fall session. The faculty had 27 members, exclusive of student assistants. The income from productive funds was \$80,000, and the receipts from all sources, \$338,000. During the year a new dormitory was built. The library contained 41,358 volumes. President, Benjamin Ficklin Finney, LL.D.

**SOUTH AFRICA, UNION OF.** A self-governing dominion of the British Empire, comprising the provinces of the Cape of Good Hope, the Transvaal, Natal, and the Orange Free State; constituted a legislative union by the South African Act of September, 1909.

**AREA AND POPULATION.** Total area, 472,347 square miles; divided as follows: Cape of Good Hope, 276,966; Natal, 35,284; Transvaal, 110,450; Orange Free State, 49,647. Total population, according to the census of 1921, 6,928,580, distributed as follows: Cape of Good Hope, 2,782,719; Natal, 1,429,398; Transvaal, 2,087,636; Orange Free State, 628,827. The director of the census and statistics gave the estimated population in 1924 as 7,293,927. The principal cities with their populations according to the census of 1921 are: Johannesburg, 288,131; Cape Town, the seat of the legislature, 207,404; Durban, 146,310; Pretoria, 74,052; Port Elizabeth, 46,094; East London, 34,673. The capitals of the respective provinces are: Cape of Good Hope, Cape Town; Transvaal, Pretoria; Natal, Pietermaritzburg; Orange Free State, Bloemfontein. The movement of population in 1924 was: Births, 96,000; deaths, 59,984; marriages, 28,574. For a distribution of population by religions according to the census of 1921, see YEAR BOOK for 1924.

**EDUCATION.** The state schools and state-aided schools in 1923 numbered 4651, for whites, with 332,066 students; and 3312 for non-European scholars, with 263,738 scholars. The number of teachers for both groups, for primary, secondary, and intermediate schools only, was 21,000. In 1924 there were 286 private schools for white children, 372 for colored, with 20,490 white scholars, 16,892 colored scholars, and 1867 teachers. The largest universities in point of numbers, with their average enrollment at the end of 1924, were: University of Cape Town, 1526; University of Witwatersrand, 1154; Transvaal University College, 756; and the University of Stellenbosch, 711. The total number of students in the universities and colleges at the end of 1924 was 5213.

**AGRICULTURE.** Wheat and maize are the two leading agricultural products. In 1923-24 the production of wheat by provinces was as follows: Cape of Good Hope, 305,056,000 lbs.; Natal, 490,000 lbs.; Transvaal, 35,405,000 lbs.; Orange Free State, 13,747,000 lbs. The production

of maize in the entire Union in the same year was 1,666,426,000 lbs. Other products were: Barley, 50,154,450 lbs.; oats, 211,069,350 lbs.; kaffir corn, 246,032,200 lbs.; potatoes, 211,770,600 lbs.; and tobacco, 11,406,362 lbs. The 1924 census of livestock showed 9,606,274 cattle; 848,436 horses; 124,685 mules; 721,850 donkeys; 206,785 ostriches; 32,002,848 sheep; 8,063,754 goats; and 778,147 pigs. The production of wool in 1924 was 147,865,493 lbs., and of mohair, 8,099,094 lbs.

**MINERAL PRODUCTION.** According to *Engineering and Mining Journal*, the year 1926 witnessed a large expansion of mining operations in South Africa, and in most branches of the mineral industry there was a material increase in production. Estimates based on returns for the first nine months were that the value of the output of metals, minerals, and mineral products in the Union of South Africa would be about £57,372,000, compared with £54,478,000 for 1925. For the completed three-quarters of 1926 production in the four provinces was as given in the accompanying table:

MINERAL PRODUCTION FOR THE FIRST NINE MONTHS OF 1926

		Value in £
Gold .....	430,638 oz...	81,568,846
Silver .....	734,459 oz...	98,535
Osmiridium .....	4,806 oz...	79,571
Platinum .....	1,641 oz...	81,246
Diamonds .....	2,218,068 metric carats	7,447,628
Coal .....	10,063,630 tons..	2,968,902
Copper ore and concentrates .....	6,991 tons..	359,309
Tin, concentrates and metallic .....	1,380 tons..	288,193
Other minerals .....	.....	242,451

**MANUFACTURES.** In 1923-24 the value added to products by manufacture was £40,441,391, and the value of the gross production of the industries was £79,789,348. The total number of factories which made returns in that year was 7112; value of land and buildings, £20,965,920; machinery, plant, and tools, £30,432,143; materials used, £39,347,957; cost of fuel, light, and power, £3,326,947; average number of persons employed, 182,877 (whites, 66,189); wages paid, £20,505,206.

**COMMERCE.** The preliminary figures for South African trade in 1925 indicated that both exports and imports reached a highly satisfactory level. Exports for the year totaled £90,497,818 and imports £71,065,433, as against £82,107,968 and £67,705,076, respectively, in 1924. The outstanding feature of exports was the record movement of corn and corn meal, which, following

LEADING ITEMS IN SOUTH AFRICAN EXPORT TRADE

Commodity	1924	1925
Gold, including specie .....	£42,613,396	£43,328,375
Diamonds .....	7,133,370	8,605,528
Wattle bark .....	840,800	1,109,200
Coal .....	1,211,600	1,071,400
Ostrich feathers .....	353,200	204,000
Raw cotton .....	170,000	850,000
Corn and corn meal .....	878,700	6,489,200
Fresh fruit .....	484,700	729,900
Fresh meat .....	100,800	263,400
Sugar .....	178,700	766,900
Mohair .....	1,142,000	886,300
Hides and skins .....	3,196,900	2,870,800
Whale oil .....	264,700	471,100
Wool .....	15,768,900	15,095,446

the very heavy yield, advanced in value to £6,489,200 from £878,700 in 1924. Gains were also recorded in fresh fruits, meat, sugar, wattle bark, and cotton. Gold and gold concentrates declined, but the total exports of this metal, including that shipped in the form of specie, were slightly above the 1924 figure. A considerable drop occurred in exports of mohair and ostrich feathers, and a slight decline in wool shipments.

On the import side, a gain of nearly five per cent was registered, despite a drop from £8,302,600 in 1924 to £4,831,754 in 1925 in government stores purchased abroad. British manufactures maintained their relative position in the South African market; imports from the United Kingdom, excluding government stores, reached a value of £33,308,920 as against £30,806,287 in 1924, the ratio to total imports being 50.3 for both years. Purchases from other British possessions expanded from £7,330,691 in 1924 to £8,523,740 in 1925, and the relative proportion advanced from 12 per cent to 12.9 per cent. Imports from other countries showed a small gain in value, being £24,367,470 in 1925 as against £23,156,847 in 1924, but the percentage declined from 37.7 to 36.8 per cent.

**FINANCE.** The position of the South African treasury, as indicated near the close of 1926 by a published statement of revenues and expenditures for the first half of the fiscal year 1926-27, may be considered in the main as very satisfactory, although receipts were somewhat below estimates and disbursements slightly above.

The returns for the six months from all sources (exclusive of the loan account) totaled £11,827,000, which represents a gain of £787,000 over the corresponding period of 1925. The full year's estimates were placed at £26,814,000. However, with the bulk of the income tax falling due in the ensuing months, it was expected that the estimates would be fully realized if not substantially exceeded.

**REVENUE ESTIMATES OF THE SOUTH AFRICAN UNION FOR THE FISCAL YEAR 1926-27, WITH RECEIPTS DURING THE FIRST HALF OF THE YEAR**

Source	Estimated revenue for year ending Mar. 31, 1927	Receipts for 6 months ended Sept. 30, 1926
Customs .....	£7,710,000	£4,248,819
Excise .....	1,802,000	921,119
Posts, telegraphs, and telephones .....	3,430,000	1,576,748
Mining .....	1,630,000	947,461
Licenses .....	140,000	24,026
Stamp duties and fees .....	850,000	434,586
Income tax .....	6,647,000	1,209,889
Death duties .....	550,000	323,851
Native taxes .....	900,000	671,640
Interest .....	1,450,000	631,466
Miscellaneous .....	1,705,000	842,252
<b>Total .....</b>	<b>26,814,000</b>	<b>11,826,857</b>

The total disbursements for the six months were returned at £13,981,000, as against an estimated expenditure of £13,476,000. It was not likely that the second half would disclose quite so large an excess, owing to the fact that two items—interest on the public debt and the subsidies to provincial councils, which are unevenly distributed—will not be so heavily drawn upon during the second half of the fiscal year. The

increased pension voted and other items of appropriation, however, may be expected to bring the total for the year sufficiently in advance of the estimates to pare down materially the substantial budget surplus which otherwise would undoubtedly accrue.

Total revenue realized during the fiscal year 1925-26 amounted to £26,900,000, and expenditures charged against it totaled approximately £26,400,000, thus leaving an actual surplus of about £500,000. The public debt, which on Mar. 31, 1925, stood at £214,322,000, was increased by £26,600,000 in the course of the fiscal year. The sinking fund on hand amounted to the sum of £18,000,000.

**COMMUNICATIONS.** In 1924 the oversea shipping was as follows: Entered, 1293 vessels of 4,980,295 tons net; cleared, 1240 vessels of 4,737,717 tons. The South African Railways for the fiscal year ended Mar. 31, 1926, enjoyed a profitable year and showed new record totals for freight and passenger traffic. The total earnings amounted to £24,151,407, or £2,403,776 above those of the previous year, and after deducting operating expenditures the surplus available for interest and other net revenue charges amounted to £5,416,083 as compared with £4,889,060, leaving a net surplus of £769,691, which took care of the deficit in the previous year of £3185. The number of passengers carried was the highest in the history of the railways, amounting to 76,282,587. Freight traffic totaled 25,233,094 tons, not only the highest in the history of the railways, but an advance of 11 per cent over the previous year. The government-owned lines aggregated 12,002 miles, an addition of 524 miles to the system during the year. Since 1909, the year preceding the formation of the Union of South Africa, the mileage of the railways had increased by 84.08 per cent. The number of locomotives on Mar. 31, 1926, was 1935, an increase of 73 over the previous year; coaches, 3258, an increase of 84; freight cars, 34,770, an increase of 530. The mileage controlled by the Railways and Harbors Administration at the end of December, 1925, was 12,607. Of this total, 1352 miles represent Southwest African lines and 684 private undertakings leased and operated by the administration.

A number of African railway projects were approved by the British Foreign Office during the summer. Among these may be mentioned the £10,000,000 transport loan, of which Kenya and Uganda will be allotted £5,000,000 for harbor and railway improvements; and the Lobito-Katanga Railway, for which a stock loan of £1,150,000 was floated in London with the guaranty of the British government.

**GOVERNMENT.** The executive power is vested in the governor-general, appointed by the Crown, who acts through an executive council of ministers, each in charge of a department; and legislative power in a parliament, consisting of a senate of 40 members, of whom eight are appointed by the governor-general in council and 32 elected from the provinces (eight each); and a house of assembly of 135 members, distributed among the provinces as follows: Cape of Good Hope, 51; Transvaal, 50; Natal, 17; Orange Free State, 17; the basis of suffrage being the same as that existing in the province at the time of the formation of the Union. As a result of the elections of June, 1924, the assembly was constituted as follows: Nationalists, 63; South

African Party, 53; Labor, 18; Independent, 1; total 135.

The governor-general, commander-in-chief, and high commissioner for South Africa in 1926 was the Earl of Athlone; and the executive council was constituted as follows: Prime minister and minister of native affairs, Gen. J. B. M. Hertzog; interior, public health, and education, Dr. D. F. Malan; mines and industries, F. W. Beyers; railways and harbors, C. W. Malan; finance, N. C. Havenga; justice, Tielman J. Roos; defense, Col. F. H. P. Creswell; labor, T. Boydell; agriculture, Gen. J. C. G. Kemp; lands, P. G. W. Grobler; posts and telegraphs, W. Madely.

**HISTORY.** An interesting event occurred in the summer, when the South African government suggested the adoption of a national flag formed of red, green, yellow, and blue bars. The English element in the Union opposed the flag on the ground that there was no suggestion of the British flag in the color combination. To some extent this was offset by the provision that on state occasions the British flag was to be raised alongside the South African flag. The flag issue became a very bitter one, and resolved itself into a definite struggle between the Boers and the English, reminiscent of the struggle over the use of the Dutch language in the schools. The agitation over the native and Indian questions, which was noted in the preceding **YEAR BOOK**, continued throughout 1926, although no definite conclusion was reached on either subject by the government. The governments of India and South Africa agreed to talk over the entire matter conversationally before any action was taken.

Tremendous interest was taken in the British Imperial Conference, which is treated in the article **GREAT BRITAIN**.

When Premier Hertzog returned to South Africa he stated in a speech that he now believed that it was possible for English-speaking South Africans to be full citizens of South Africa and still hold a sense of loyalty to Great Britain. This seemed to many observers to be directly contradictory to his former attitude and not in accordance with the principles of his party, which aimed at separation from Great Britain. Other members of his party concurred in his views.

**SOUTH AMERICA.** See under the various South American countries; and under **NAVAL PROGRESS**.

**SOUTH AUSTRALIA.** One of the states of the Australian Commonwealth, comprising the central and southern part of the island continent; bounded by the Northern Territory on the north, by Western Australia on the west, and on the east by Victoria, New South Wales and Queensland. Area, 380,070 square miles; population, according to the census of 1921, 495,336; estimated on June 30, 1925, 543,122, exclusive of aborigines, of whom the number is unknown. The number of full-blooded natives living in the settled portions has been estimated at only 1609. Capital and largest city, Adelaide, with a population (including suburbs), in 1924, of 289,914. In 1924 the movement of population was: Births, 11,592; deaths, 4870; marriages, 4121.

Education is secular, free, and compulsory. In 1924 there were 1078 schools with 83,483 pupils under instruction; private schools numbered 186, with 15,063 pupils. For higher education there is the University of Adelaide, and

there are various institutions for the training of teachers and for technical instruction. In 1924-25 the principal crops, with their acreage and production, were as follows: Wheat, 2,499,852 acres, 30,528,625 bushels; barley, 166,432 acres, 3,103,718 bushels; oats, 155,214 acres, 1,939,415 bushels; hay, 562,253 acres, 716,749 tons; vines produced 10,502,381 gallons of wine. The chief mineral products are gold, copper, ironstone flux, and gypsum. The total value of the mineral production in 1924 was £953,238. The imports for 1924-25 amounted to £13,978,296 and the exports £19,208,657. The chief exports are wool, wheat, copper and other minerals, meats, butter, wine, honey, fruits, hides and skins, tallow, leather, and manures. The revenue for 1926 was £10,473,924, and the expenditure £10,461,081. The revenue is largely derived from inland sources—railways and territorial receipts—and the chief items of expenditure are public service, railways, and the service on the public debt, which amounted to £72,481,942 on June 30, 1925.

In 1924-25, 1280 vessels of 4,573,822 tons entered the ports of South Australia. In 1925 there were 3400 miles of railways in the state. A comprehensive programme of railway construction was proposed in South Australia for 1927. Surveys for the North-South Railway from Oodnadatta to Alice Springs would be completed by the end of 1926, it was expected, and operation of the line was to commence in January, 1927. It was proposed to construct the first 25 miles by departmental labor, and tenders were to be asked for the work beyond M. P. 25, early in 1927. The proposed railway from Port Augusta to Red Hill will also be undertaken at the beginning of 1927, when a bill for appropriations will be submitted to parliament.

The administration is under a governor appointed by the Crown, with an executive council; legislative power is vested in a council and an assembly, the latter consisting of 46 members elected for three years. Governor in 1926, Maj.-Gen. Sir George Tom Molesworth Bridges; prime minister, treasurer, and minister of railways, J. Gunn.

**SOUTH CAROLINA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,683,724. The estimated population on July 1, 1926 was 1,826,000. The capital is Columbia.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	2,732,000	1,080,000 *	
	1925	2,802,000	888,666 *	
Corn	1926	1,426,000	22,103,000	\$19,898,000
	1925	1,584,000	19,483,000	21,431,000
Tobacco	1926	81,000	57,510,000 *	13,400,000
	1925	96,000	71,040,000 *	12,077,000
Oats	1926	416,000	10,483,000	7,024,000
	1925	378,000	7,182,000	6,464,000
Potatoes	1926	29,000	3,219,000	5,472,000
	1925	25,000	2,400,000	5,040,000
Sweet potatoes	1926	52,000	4,160,000	4,160,000
	1925	52,000	2,860,000	4,204,000
Hay, tame	1926	260,000	202,000 *	4,040,000
	1925	214,000	57,000 *	1,140,000
Wheat, winter	1926	50,000	800,000	1,240,000
	1925	46,000	506,000	986,000

\* bales, \* pounds, \* tons.

**MINERAL PRODUCTION.** Most important of the mineral products of the State are stone and clay

products, which with sand and gravel make up almost the totality of the value of the yearly output. Clay products had a value of \$1,511,154 in 1924 and in 1923 of \$1,448,790. Of stone there were produced 824,030 short tons in 1924 and in 1923, 847,070 short tons; in value \$1,527,114 in 1924 and in 1923, \$1,657,926. The total value of the mineral products of the State was \$3,444,366 in 1924; in 1923, \$3,550,059.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State for the fiscal year ending Dec. 31, 1925, were \$11,885,257. Their per capita rate was \$6.68, as against \$5.26 in 1924 and \$1.82 in 1917. Their total included \$3,411,421 for education, apportioned among minor State divisions. Payments amounting to \$331,774 for interest on debt and \$4,152,129 for permanent improvements, added to the payments for maintenance and operation of departments, made the year's total of State payments \$16,369,160. For highways was expended the sum of \$5,644,502, of which \$2,116,986 was for maintenance and \$3,527,516 for construction.

Revenue receipts of the State were \$16,970,030, or \$9.54 per capita. They exceeded by \$4,752,999 the total payments except those for permanent improvements, and furthermore, exceeded by \$600,870 the total with these included. This excess increased the State's cash balances. Property and special taxes formed 33.5 per cent of the revenue in 1925, as against 45.3 per cent in 1924 and 64.4 per cent in 1917. Their per capita rate was \$3.19 in 1925, \$3.07 in 1924 and \$1.24 in 1917. Earnings of the departments and compensation for officials' services furnished 7.2 per cent of the 1925 revenue; business and non-business licenses, 46.8 per cent. License revenue was increased in 1925 by a tax on non-alcoholic drinks, by a higher tax on gasoline and by the crediting to the State of the entire tax on motor vehicles. License receipts included also the proceeds of taxes on incorporated companies and on sales of tobacco, cigars, and cigarettes.

The net indebtedness of the State, Dec. 31, 1925, was \$5,280,915, or \$2.97 per capita, as against a per capita of \$2.96 in 1924 and \$3.32 in 1917. The assessed valuation of property subject to State tax was \$430,082,368. The State tax levy was \$3,018,137, or \$1.70 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 3748. There was constructed in 1926 two miles of new second track.

**EDUCATION.** The tendency away from the smaller and less effective types of rural school was marked by a diminution in the number of such schools in the course of the year. Of rural schools having 1, 2, or 3 classrooms, the number was reported as having declined from 1468 to 1314. The total number of white schools fell from 2100 to 1921, according to the State supervisor of rural schools. There were established 31 rural white high schools. Third-grade certificates were abolished and second-grade certificates discontinued, the latter having previously been granted on high school diplomas and summer school additional credits. A State measure guaranteeing a term of seven months to schools attaining a required standard went into effect. For negroes, 66 Rosenwald schools and 8 teacher-training schools were established. In the school year 1925-1926, the number of public

schools was officially given as white, 1921; negro, 2385. There were enrolled 248,562 white pupils and 234,707 colored, the total enrollment being, for both races combined, 483,269. Expenditures of all sorts for the schools totaled for the year \$16,329,372. Salaries of teachers averaged, for whites, \$982; and for negroes, \$309.

**CHARITIES AND CORRECTIONS.** The State Board of Public Welfare was established in 1920, succeeding the Board of Charities and Corrections and the Board of Correctional Administration. The Governor of the State is chairman ex officio. Six members with six-year terms, one term expiring every year, complete the board. The population of the State institutions for the year was approximately: South Carolina Industrial School for Girls (white), 60; South Carolina Industrial School for Boys (white), 170; State Reformatory for Negro Boys, 102; State Training School (for the feeble-minded), 330.

**POLITICAL AND OTHER EVENTS.** At the general election, November 2, John D. Richards was elected Governor for the four-year term beginning January, 1927, and Senator Ellison D. Smith was reelected to the United States Senate to serve the six-year term. Both ran as Democrats, without Republican opposition. Seven Democratic candidates were elected to the United States House of Representatives, all being the holders of the seats. The other chief State officers elected in November, to take office in 1927, were Lieutenant-Governor, Thomas B. Butler; Secretary of State, W. P. Blackwell; State Treasurer, J. H. Scarborough; Budget Clerk, G. L. Weissinger; Attorney-General, John M. Daniel.

A close contest took place in the summer, in the primaries of the dominant State Democratic party. Senator Ellison D. Smith, as candidate for the nomination for United States Senator, was opposed by Speaker Edgar A. Brown, and failed to gain the prescribed majority. This outcome necessitated a run-off primary, which was held September 14 giving Smith the nomination. A proposed amendment to the State constitution, to lengthen the terms of representatives in the General Assembly from two to four years, was defeated at the regular November election by a vote of decisive proportions, being about two adverse to one in favor. Only about 9000 votes were cast.

**OFFICERS.** Governor, J. G. McLeod; Lieutenant-Governor, E. B. Jackson; Secretary of State, W. P. Blackwell; Treasurer, S. T. Carter; Budget Secretary, Ben W. Sawyer; Attorney-General, John M. Daniel.

**JUDICIARY.** Chief Justice: Eugene B. Gary; Associate Justices: Richard C. Watts, Thomas B. Fraser, Thomas P. Cothern, J. Hardin Marion.

**SOUTH CAROLINA, UNIVERSITY OF.** A non-sectarian State institution of higher education at Columbia, S. C.; founded in 1801. The enrollment for the fall term of 1926 was 1444, consisting of 1011 men and 433 women. There were 461 students registered for the summer school. The faculty numbered 87, including instructors. The productive funds of the University were \$528,903.25. There were 80,000 volumes in the library. A new president, Davison McDowell Douglas, A.M., D.D., LL.D., formerly president of the Presbyterian College of South Carolina, was installed, following the death of William Davis Melton, LL.D. (q.v.).

**SOUTH DAKOTA. POPULATION.** The fourth State census of South Dakota was taken as of



May 1, 1925, and showed a total population of 681,260, of which 20,559 were Indians. Of this total 347,579 were males and 313,122 were females. This indicated an increase in population over that shown by the Fourteenth Census of the United States, which returned for South Dakota 636,547 on Jan. 1, 1920. The estimated population on July 1, 1926, was 689,000. The capital is Pierre.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	4,433,000	79,794,000	\$46,281,000
	1925	4,478,000	78,865,000	47,019,000
Wheat,	1926	75,000	525,000	604,000
	winter	1925	125,000	1,438,000
Wheat,	1926	1,842,000	10,315,000	12,172,000
	spring	1925	2,576,000	38,908,000
Oats	1926	1,984,000	28,218,000	8,357,000
	1925	2,884,000	96,856,000	26,980,000
Hay, tame	1926	1,361,000	1,864,000	17,732,000
	1925	1,095,000	1,452,000	15,972,000
Barley	1926	778,000	7,858,000	4,086,000
	1925	915,000	23,790,000	11,181,000
Flaxseed	1926	475,000	2,755,000	5,234,000
	1925	559,000	3,801,000	8,552,000
Potatoes	1926	55,000	3,800,000	5,247,000
	1925	61,000	3,965,000	7,137,000

\* tons.

**MINERAL PRODUCTION.** The State is one of the chief producers of gold, which in turn forms by far the largest part of its mineral product in point of value. The Homestake mine, the most productive in the United States, is situated in the State. The State's gold mines produced 288,160 troy ounces of gold in 1925, and 297,085 troy ounces in 1924; in value, \$5,956,800 in 1925 and in 1924, \$6,141,300. Silver in minor quantity was produced; in 1925, 98,234 troy ounces and in 1924, 89,417 ounces; with a value for 1925 of \$68,174, and for 1924 of \$59,909. Stone, sand and gravel, and coal also were produced. The total value of the State's mineral production was in 1924, \$6,884,433; in 1923, \$7,372,368. In 1926, the Homestake mine produced approximately \$5,794,000 in gold and 82,000 ounces of silver, according to the U. S. Bureau of Mines. In 1926, the Homestake also produced tungsten concentrate. Development work was done at small mines near Keystone, S. D.

**FINANCE.** As summarized by the Department of Commerce of the United States, payments for maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$7,578,122. Their rate per capita was \$11.17, as against \$10.44 in 1924 and \$5.90 in 1918. Their total included \$1,715,335 for education, apportioned among minor State divisions. Payments amounting to \$723,824 for public-service enterprises, \$3,208,369 for interest on debt and \$6,328,236 for permanent improvements, added to the payments for maintenance and operation of departments, made the year's total of State payments \$17,838,551. For highways was expended the sum of \$6,208,897, of which \$804,471 was for maintenance and \$5,404,426 for construction.

Revenue receipts of the State were \$15,910,115, or \$23.45 per capita. They exceeded by \$4,399,800 the total payments except those for permanent improvements, and were \$1,928,436 less than the total with these included. Payments in excess of revenue were met from the proceeds of bond obligations. Property and special taxes

formed 27 per cent of the revenue in 1925, as against 27.3 per cent in 1924 and 36.9 per cent in 1918. Their per capita rate was \$6.32 in 1925, \$5.76 in 1924 and \$3.06 in 1918. Earnings of the departments and compensation for officials' services furnished 7.8 per cent of the 1925 revenue; business and non-business licenses, 20.2 per cent. License revenue was derived chiefly from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$15,965,111, or \$23.53 per capita, as against a per capita of \$25.18 in 1924 and none in 1918. The assessed valuation of property subject to State tax was \$1,876,112,767. The State tax levy was \$4,428,250, or \$6.53 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4245. There was no new construction and no abandonment of line was reported in 1926.

**EDUCATION.** Requirements for qualification of teachers were raised. Applications of those having passed the high school normal training course and seeking second-grade certificates were granted only after examination. In the school year ending June 30, 1926, the school population was estimated as 208,017. Enrollment in the public schools was 164,561, there being 138,166 enrolled in the common schools and 26,395 in the high schools. Expenditures for public education in the year amounted to \$18,436,263. Salaries of teachers averaged \$1210 a year.

**CHARITIES AND CORRECTIONS.** A Board of Charities and Corrections, having chief charge of welfare and correctional activities, publishes a biennial report. The State institutions include the State Penitentiary, the South Dakota School for the Deaf, the School for the Blind and Training School, the State School for the Feeble-Minded, the State Hospital, and the Soldiers' Home.

**POLITICAL AND OTHER EVENTS.** At the general election, November 2, W. J. Bulow, the Democratic candidate, was elected Governor for the two-year term beginning January, 1927. He was the first Democrat to win the office. His opponent, Governor Carl Gunderson, obtained the Republican nomination, but was defeated largely through the opposition of a portion of his own party. Governor Gunderson drew this opposition on himself by efforts made in the course of his term to terminate the State rural credit system under which the State had advanced some \$47,500,000 to farmers and land holders. Bulow engaged himself, in his campaign, to support the State bank guarantee law, the repeal of which had been sought after the failure of a number of banks in the State had rendered the State liable to depositors for some \$25,000,000. Senator Peter Norbeck, Republican, was reelected to the U. S. Senate, and the three Republican members of the U. S. House of Representatives were likewise reelected.

Other State officers elected in November were: Lieutenant-Governor, H. E. Covey; Secretary of State, Gladys Pyle; Treasurer, A. J. Moodie; Auditor, E. A. Jones; Attorney-General, Buell F. Jones.

**OFFICERS.** Governor, Carl Gunderson; Lieutenant-Governor, A. C. Forney; Secretary of State, F. C. Coyne; Treasurer, J. L. Driscoll; Auditor, E. A. Jones; Attorney-General, Buell F. Jones.

**JUDICIARY.** Supreme Court: John Howard



Gates, Samuel C. Polley, Frank Anderson, C. G. Sherwood, Charles Hall Dillon.

**SOUTH DAKOTA, UNIVERSITY OF.** A State institution of higher education at Vermilion, S. D.; founded in 1882. The enrollment for the first semester of 1926 was 1101, and 224 were registered for the summer session of 1926. The faculty and staff numbered 135. The productive funds amounted to \$412,950, and the income for the year was \$75,000. The library contained 60,000 volumes. President, Robert L. Slagle, Ph.D., LL.D.

**SOUTH DAKOTA STATE COLLEGE.** A State college of agriculture and the mechanic arts at Brookings, S. D.; founded in 1882. The enrollment for the autumn of 1926 was 1087, of whom 23 were graduate students. The 1926 summer session had an enrollment of 176. The faculty, inclusive of the extension staff, numbered 140, of whom 24 were appointed during the year. The income for the year, including that from 160,000 acres of land, amounted to \$889,549.84. The library contained 35,000 bound volumes, and about 12,000 pamphlets. A new library building, to cost \$200,000, was in course of erection, and was expected to be completed by July 1, 1927. President, Charles W. Pugsley, B.S., D.Agr.

**SOUTHERN CALIFORNIA, UNIVERSITY OF.** A co-educational institution of higher education at Los Angeles, Calif.; founded in 1879. It comprises the following schools and colleges: Liberal Arts, Music, Dentistry, Pharmacy, Metropolitan, Graduate, Religion, Law, Speech, Commerce and Business Administration, Education, Social Welfare, and Architecture. The enrollment for 1925-26, including summer session and extension classes, was 12,217. For the summer session of 1926 the enrollment was 4008. In the autumn of 1926 there were 500 members on the faculty. The endowment was \$500,000, the income from tuition fees \$1,116,023.64, and other income \$134,502.87. There were 85,000 volumes in the library. The following buildings were erected during the years 1924-26: Women's Residence Hall, Law School building, Science building, and School of Architecture building. President, Rufus B. von Kleinsmid, Sc.D., J.D.

**SOUTHWEST AFRICA.** A former German protectorate, administered since Dec. 17, 1920, by the Union of South Africa under a mandate from the League of Nations; bounded on the north by Portuguese West Africa, on the west by the Atlantic Ocean, and on the south and southeast by the Cape of Good Hope Province of the Union, and on the remainder of the eastern boundary by the Bechuanaland Protectorate. Capital, Windhoek, with a population of 4196 Europeans and 13,160 natives; area, 311,820 square miles; population, according to the census of 1921, 19,432 Europeans (7855 Germans) and about 209,300 natives. The non-German element in the European population is almost entirely South African. The chief native tribes are Hottentots, Bushmen, Hereros, Ovambos, and Bergdamarus.

In 1925 there were 41 government schools with 2585 pupils, and 16 registered private schools with 600 pupils, for the education of the white children; for the natives there were in the same year 44 government-aided mission schools with 2700 pupils, and 12 mission schools not yet aided. Stock raising is the principal pursuit; agriculture has been found impractical on a large scale because of the scarcity of water.

The principal mineral product is diamonds; others are copper, vanadium, marble, tin, gold, and silver. Imports from overseas in 1924 were £628,026; from the Union of South Africa, £1,071,606; exports overseas £2,241,308, to the Union of South Africa, £606,305. The estimates for 1925-26 were: Revenue, £652,115; expenditure, £832,363. There are about 1333 miles of government-owned railway and 98 miles of privately owned lines. The head of the government is an administrator representing the governor-general of the Union of South Africa; he has full power to legislate and is assisted by an advisory council. Administrator, A. J. Werth, appointed in November, 1925. See SOUTH AFRICA, UNION OF.

**SOVIET SOCIALIST REPUBLICS OF RUSSIA.** See RUSSIA.

**SPAIN.** A constitutional monarchy of southwestern Europe, occupying the greater part of the Iberian peninsula and separated from France by the Pyrenees. Capital, Madrid.

**AREA AND POPULATION.** Continental Spain has an area of 190,050 square miles; including the Balearic and Canary Islands and the Spanish possessions on the north and west coasts of Africa, the area is 194,800 square miles. According to the census of 1920, the population was 21,959,086, as compared with 19,950,817 in 1910; estimated, Dec. 31, 1924, 21,966,641. The cities with over 150,000 inhabitants on Dec. 31, 1924, were as follows: Madrid, 783,216; Barcelona, 738,498; Valencia, 260,329; Seville, 210,949, and Malaga, 156,513. The movement of population in 1924 was: Births, 649,615; deaths, 430,474; marriages, 158,316.

**EDUCATION.** On Jan. 1, 1924, there were 29,622 public schools and about 5600 private schools, the total number of pupils being 3,128,064. There were 58 secondary schools with 57,579 pupils. There are eleven universities, situated at Barcelona, Madrid, Granada, Murcia, Oviedo, San Diego, Salamanca, Seville, Valencia, Valladolid, and Zaragoza. In 1924 these universities were attended by 25,690 pupils. At Cadiz there is a medical faculty affiliated with the University of Seville, which also maintains an educational institution in the Canary Islands.

**PRODUCTION.** The following table from the *Statesman's Year Book* for 1926 shows the area under the principal crops and the yield for 1925:

	Area 1925 Acres	Yield 1925 Cwt.
Wheat .....	10,717,760	88,501,420
Barley .....	4,411,953	43,077,260
Oats .....	1,797,654	12,611,678
Rye .....	1,845,253	15,179,894
Maize .....	1,169,819	14,331,184
Millet .....	4,900	42,896
Mealin .....	112,158	595,448
Rice .....	120,289	6,119,392
Beans .....	532,670	3,859,330
Kidney beans .....	707,939	3,882,210
Peas .....	143,391	802,992
Chick peas .....	628,247	3,257,156
Lentils .....	86,242	668,866
Tares .....	489,495	2,718,832
Vetches .....	172,211	1,372,984

For a survey of the national wealth of Spain see the preceding YEAR BOOK under the heading *Production* in the article on Spain.

**COMMERCE.** Spanish foreign trade in 1925 showed declines in both import and export categories, as compared with the previous year. Imports reached only 2,250,000,000 pesetas as

against 2,947,000,000 pesetas in the earlier year, while exports amounted to 1,581,000,000 pesetas as against 1,790,000,000 pesetas. The decline in the case of exportation was less important, and the heavy unfavorable balance was thus reduced. Exportation of manufactured articles showed an increase to 456,000,000 pesetas for the year, as against 400,000,000 pesetas in 1924, and there was a striking decline in importation of unmanufactured goods.

Trade continued to show improvement during the first six months of 1926. Both export and import trade were larger than for the corresponding periods of the two previous years, and the unfavorable balance was considerably reduced.

Of the major imports, raw materials alone showed a decrease from 1925. The decline in exports of raw materials and of manufactured articles was offset by the large gain in exports of foodstuffs, which was sufficiently great to reduce the unfavorable balance for the period.

**FINANCE.** The revenue budget for 1925-26 is fundamentally a prorogation of that for the previous year. A net reduction of 22,500,000 pesetas, distributed over direct taxes, indirect taxes, and income from state property, was the only outstanding feature.

**SPANISH BUDGETS**  
(In thousand pesetas, paper)

Classification	1924-25 * estimated	1925-26 estimated
<b>Expenditures</b>		
General obligations:		
Royal household .....	9,500	9,500
Senate and deputies .....	2,084	2,056
Public debt .....	737,801	776,911
Pension fund .....	102,677	102,677
New supreme tribunal .....	1,242	1,242
<b>Total .....</b>	<b>852,804</b>	<b>892,386</b>
Government departments:		
President of the council .....	2,120	15,725
Ministry of state .....	11,825	11,804
Ministry of justice—		
Civil .....	41,607	40,821
Ecclesiastical .....	61,201	61,185
Ministry of war .....	358,461	442,931
Ministry of marine .....	169,824	179,128
Ministry of interior .....	264,962	255,417
Ministry of public instruction and fine arts .....	177,652	178,396
Ministry of "fomento" (protec- tion and promotion of na- tional industries) .....	407,618	421,208
Ministry of commerce and in- dustry .....	15,668	15,511
Ministry of hacienda .....	32,700	31,907
Expenses, collection taxes and public rentals .....	268,645	268,287
Possessions in west Africa .....	2,709	2,802
Campaign in Morocco .....	279,438	280,580
<b>Total .....</b>	<b>2,088,920</b>	<b>2,200,152</b>
<b>Grand total .....</b>	<b>2,941,725</b>	<b>3,092,538</b>
<b>Revenues</b>		
Direct taxes .....	1,010,723	1,002,678
Indirect taxes .....	1,060,804	1,058,804
Government monopolies .....	612,900	612,900
State property:		
Rentals .....	38,846	31,344
Sales .....	418	418
Resources of the treasury .....	54,650	54,650
<b>Total .....</b>	<b>2,777,841</b>	<b>2,755,289</b>
<b>Deficit .....</b>	<b>163,884</b>	<b>337,249</b>

\* Owing to a change in the opening date of the fiscal period (effective in 1924), by which the year begins on July 1 instead of April 1, the interim period (Apr. 1-June 30) was conducted under an extension of the previous year's budget.

An extraordinary budget authorizing expenditures in the various departments of the Spanish government during the next 10½ years was adopted by a royal decree dated July 9, 1926. It was intended to spend between that date and Dec. 31, 1936, the sum of 3,538,947,550 pesetas. The decree provided that the sums appropriated shall be obtained from the sale of public bonds to be issued during each fiscal year, to an amount equivalent to the credits authorized for that year. Of the total of the extraordinary expenditures authorized, nearly one-half is allotted to the ministry of public works, divided as follows: Port works, 600,000,000 pesetas; hydraulic works, 100,000,000; highway circuit around Spain, 600,000,000; road construction in general, 200,000,000; and reforestation, 100,000,000 pesetas.

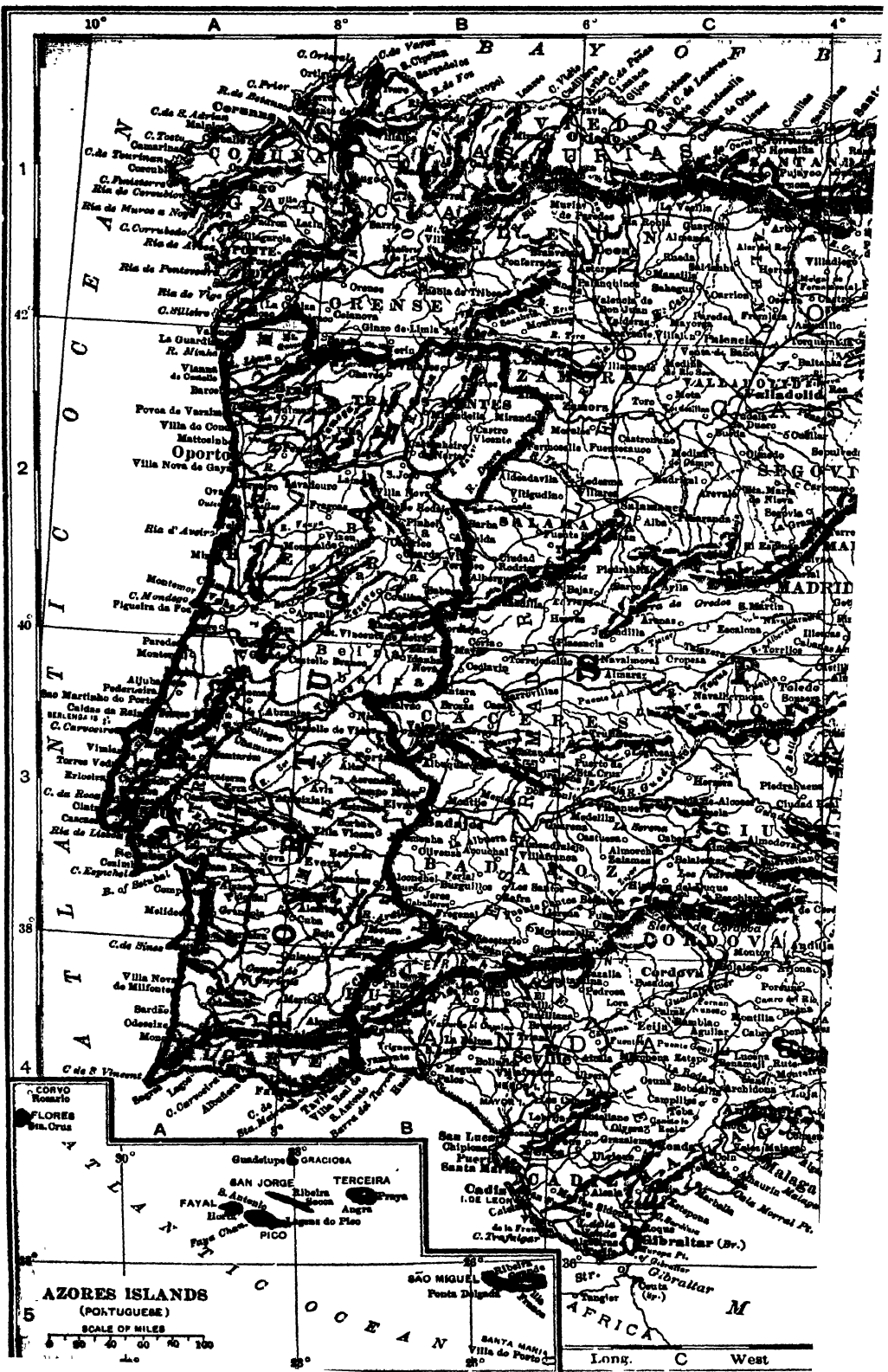
**COMMUNICATIONS.** The merchant navy on Jan. 1, 1925, contained 1221 steamers of 1,189,108 tons net.

The three principal Spanish railways enjoyed a less favorable financial position during 1925 than in 1924. In the autumn, the Northern purchased the Central of Aragon. Considerable interest in the sale took place in railway circles, since it is the first move of any regrouping under the new railway "regimen," and was said to be free from any influence or pressure on the part of the government. The Central of Aragon was owned by Belgian interests, and is one of the most prosperous railroads in Spain; in fact, it is the only railway of importance which has been able to operate under the railway law of 1924 without any financial aid or increase in rates. The line, nearly all single track of 4 ft. 6 in. gauge, runs from the port of Valencia into the centre of Aragon, for a distance of about 186 miles. The purchase price was given as 57,000,000 pesetas.

The supreme railway council of Spain, on April 27, gave its technical approval to the immediate construction of the following railway lines authorized April 23 by the council of ministers: Madrid to Burgos, a distance of approximately 250 kilometers; Cuenca to Utiel, 200 kilometers; Jerez to Sentenil, 125 kilometers; Soria to Castejon, 125 kilometers; Puertollano to Cordoba, 120 kilometers; Teruel to Alcaniz, 200 kilometers; and Alcaniz to Caspe, 25 kilometers.

Construction work on a number of railway projects in different regions of Spain, together with the filing of orders for rolling stock, was definitely ordered on Dec. 3, 1926. In Coruña Province, northwestern Spain, immediate construction was ordered for a 43-kilometer branch connecting Ferrol with Betanzos on the Zamora-Orense-Coruña Railway. This branch, the only state-owned railway in the system, will provide rail transportation (via Betanzos) between Ferrol, the base of a naval arsenal, and the seaport of Coruña just to the south. In the Andalusian region, southern Spain, construction was authorized on a 160-kilometer line between Baeza, in Jaen Province and Alcaez, in Albacete Province. This new line, to follow the course of the Guadalquivir River, will constitute the first section of the projected Baeza-Utiel Railway, which will unite the Andalusian region with the Mediterranean coast at Valencia without the necessity of passing through Madrid. The Baeza-Utiel line will be complementary to the projected Utiel-Teruel-Lerida line in northeastern Spain









and will constitute a part of the secondary services of the state, connecting the Andalusian region with the Catalanian region.

**GOVERNMENT.** Executive power is vested in the King, who, according to the constitution, acts through a responsible ministry; and legislative power in the Cortes, or parliament, consisting of a senate and a chamber of deputies. Parliament was dissolved by a royal decree, Sept. 16, 1923. The King in 1926 was Alfonso XIII, who succeeded on his birth (which occurred after his father's death), May 17, 1886. Under the constitution the principle of ministerial responsibility is established, but in 1923 a directorate was set up under Lieut.-Gen. Primo de Rivera. On Dec. 3, 1925, the military directorate was superseded by a civil government, under the presidency of General Primo de Rivera, and composed of members of the new political party, the "Unión Patriótica." All the former ministry departments were reestablished. The change was one in name only, as everything continued as before, when Rivera managed things alone. The new civil government was constituted as follows: President of the council, Primo de Rivera; foreign affairs, Señor Yanguas; justice and worship, Señor Galo Ponte; war, Duke of Tetuán; marine, Vice-Admiral Cornejo; finance, Señor Calvo Sotelo; interior, Gen. Martínez Anido; public instruction, Señor Callejo; public works, Señor Benjumea; labor, Señor Aunós.

**HISTORY.** The Rifian War came to a close on May 26 with the Surrender to the Spanish and French forces of Abd-el-Krim. See **MILITARY PROGRESS AND MOROCCO.**

The Directorate. As announced in the preceding **YEAR BOOK**, a change in the form of government took place towards the close of 1925. In a sense, it was a return to constitutional civil government, but from the practical point of view it was the old military government under a new name. Everything went on as before, with the cabinet decreeing the laws and no parliament in session. Early in 1926, Primo de Rivera reiterated again and again that there would be no change in the form of government as it then existed, and he was reported as saying that no parliament would meet for at least four years. He said: "The permanence of the government is for an indefinite time, since the country desires no political changes. For the next ten months there cannot be any talk of collective assemblies or other constitutional changes, which will happen only after all other more urgent problems have been solved." The Catalanian problem continued to be troublesome to Primo de Rivera. His attempts to enforce the use of the Spanish language on the people of Catalonia was met with stout resistance, and resulted in press censorship as far as Catalonia was concerned, as well as in prison terms for the extremists of the separatist movement. The government went so far as to threaten confiscation of property and loss of the right to practice professions if the Catalonians persisted in using their own language and refused to obey the dictates of the government.

During June a plot was unearthed to overthrow the government of the Spanish dictator. The leaders in the movement were General Weyler, former chief of the general staff, and General Francisco Aguilera, former minister of war. The plot was discovered the day before it was to be executed, and the government took prompt and severe measures to arrest the leaders. About 400

in all, of various political opinions and beliefs, were arrested. Many of the higher officers in the army were implicated. Apparently, the movement was completely checked by the end of the first week in July, when the government announced that heavy fines and imprisonments would be imposed upon the leaders of the movement. According to literature seized, the purpose of the revolutionary scheme was to restore to Spain the form of government which was in vogue before Rivera's coup of Sept. 13, 1923. Although order was restored, according to government announcements, enough news filtered through the strict censorship to let the outside world know that all was not well within the country and that the army was, time and again, on the point of mutiny. With the consummate skill of the seasoned politician, Rivera determined to offset the obvious dissatisfaction with his rule by holding a plebiscite on September 11, 12, and 13, to see whether the people were for or against him and his plans of government. Of course, the result was known before the first ballot was cast. According to the official reports, almost 7,000,000 people voted for Rivera and his schemes. No negative votes were allowed and, in order to roll up a huge majority, all sorts of changes were made in the former electoral laws. Some critics stated that whole classes of school children were marched to the polls to cast a solid vote of approbation for the dictator. The year closed with the situation unchanged so far as Rivera was concerned. Undoubtedly, there was unrest, but not a sufficient amount of it to cause the government any uneasiness or to make it feel that it would soon be necessary to grant reforms or else face ruin.

For the relations of Spain with the League of Nations, see **LEAGUE OF NATIONS.**

**SPANISH LITERATURE.** Again in 1926, as in the two previous years, the output in the drama seems to have outstripped those of the other branches, while fiction has forged ahead of erudition.

**DRAMA.** Benavente gave *La Mariposa que Voló sobre el Mar*, a delicate comedy that proved to be an enormous success. L. Fernández Ardavin produced *Rosa de Madrid*, a beautiful play devoted to the Madrid that is fast disappearing. The Álvarez Quintero brothers continued to delight the nation. We note particularly *Las de Abel* (presenting a problem the reverse of their earlier and successful *Las de Caín*), *Los grandes hombres, o el monumento a Cervantes* (a loa), and *Barro pecador* (one of their best). P. Mafioz Seca again ran true to form, whether writing alone as in *Humo* (dialogue between an author and an actor facing the cruelties of life and admitting that "the glories of life are smoke"), and *La venganza de Don Mendo* (caricature of a tragedy, and one of his greatest successes), or collaborating with Pérez Fernández as in *María Fernández* and *La cabalgata de los Reyes* (a new step of these authors away from mere rollicking comedy to something a bit more serious and promising much for their future in this field). Fernández del Villar's *La Prudencia* is considered his best work to date. E. Thuillier and J. López de la Hera won a triumph with *La mujer que necesito*. G. Martínez Sierra, with Honorio Maura, produced the delightful comedy *Mary, la insoportable*, a step forward in the collaboration of these two authors; and, with Eduardo Marquina, the beautiful poetic comedy, *El*

*camino de la felicidad* (story of an abandoned young girl going through life without other protection than her simplicity, and without other hope than a dream that she dreams and follows until her dream comes true). Pilar Millán Astray won favor especially with the sainete, *Magda, la tirana*, which was a veritable triumph. The Machado brothers, Manuel and Antonio, wrote a beautiful tragi-comedy in verse, *Desdichas de la fortuna, o Julianillo Valoórcel*, dealing with the times of the Count-Duke of Olivares. Luis Manzano established his reputation with *Doña Tufitos*. The novelist, Rafael López de Haro, won new dramatic laurels with *Ser, o no ser*, and *En qué consiste el honor*. Miguel A. Oliva, working with Javier de Buróos, produced a religious play *La tragedia de Gólgota*, artistically built up from biblical texts. Federico Oliver registered two very great successes, *El azar* and *Lo que ellas quieren*. Felipe Sassone presented successfully *Todo tu Amor . . . o si no es verdad debiera serlo*, and *Y después?* Julián Sánchez-Prieto, the Castilian shepherd-poet, discovered in 1923, had a riotous success with *Al escampio!*, which he calls merely a "dramatic skit."

The following may also be noted: J. I. Luca de Tena, *La opinión de los Demás* (his best play); Grajales and Gómez de Miguel, *El Mártir del Calvario* (worthy revival of an obsolete genre: the *auto sacramental*); Tomás Luceño (the eighty-one year old veteran adapter of Lope, Tirso, and Rojas), *El imposible mayor* (exquisite verse, very much in seventeenth-century style, and a veritable gem); Joaquín Montañer, *El loco de Extremadura* (deals with the journey of Charles V to retirement at Yuste, is very dramatic, historically accurate, and couched in fluid, sober verse, suited to the subject); Manuel Abril, *Pero . . . ¡ Si yo soy un hermano!* (subtle, hilarious farce); Miguel de Unamuno, *Raquel* (a drama); L. Capdevila and C. Giralt, *El ídolo de carne* (strong study of passion, very well received); Enrique Suárez de Deza, *Aventura* (surpassed his last year's triumph, *La dama salvaje*); Serrano Anguita, *La Pájara* (a real masterpiece); and Carlos Arniches, *El último mono*.

We have been favored with an unusual number of new dramatists of promise, some unheard of, others known in other fields: Martín Galeano and López Carrión, *La sombra de Hamlet* (very successful); Claudio de la Torre, *Un héroe contemporáneo*; Miguel Urriós, *Estaba un día un pastor* (tragic scenes inspired by verses of an old ballad); Pilar Algorta de Dupóns, *Sin gloria y sin amor* (enormous success); and Azorín, *Old Spain* (a beautiful combination of classicism and modernism).

FICTION. This year fiction, although still behind drama, ran ahead of erudition. The following works are the most noteworthy: J. Lillo Rodelgo, *Clara Angélica* (awarded the 3000-peseta prize of the *Magisterio Español* contest); Matilde Muñoz, *La señorita del sombrero feo*; W. Fernández Flórez, *Las siete columnas*; J. Costa Figueiras (Gallegan author), *Los agros de Sureda* (exquisite treatment of the "Patria chica"); J. M. Salaverría, *Retratos*; Alfredo Antigüedad, *Anecdotario*; A. Martínez Olmedilla, *La poesía del recuerdo*; F. Camba, *El tributo de las siete doncellas*; E. Gómez Carrillo, *Fes, la Andaluza*; A. Inaúa, *La mujer, el torero, y el toro* (a triumph); P. Mata, *Más allá del amor*

*y de la vida*; Concha Espina (already being mentioned as a possible Nobel prize winner), *Altar mayor* (great success); J. Más, *La Locura de un erudito* (about Sevilla); "Adebel," *Por una gota de sangre* and *Las dos orillas* (novels of profound emotion and palpitating interest); Joaquín Arderius, *La Duquesa de Nít*; J. R. Coloma, *Amores africanos* (won the 5000-peseta prize in the contest of the publishing house "Voluntad"); and M. Tomás, *La Florista del Tiberiades*. Carmen Valera continues the publication of the *Obras Completas* of her illustrious father Juan Valera (vol. 49, *Miscelánea III* appeared) and of the *Obras Selectas* (vols. 4-9 have appeared, containing in order *El Comendador Mendoza*, *Pasarse de listo*, *Genio y figura*, *Morsamor*, and *Las ilusiones del Doctor Faustino*, 2 vols.). Carlos María Ocantos published vol. 17 of his *Novelas Argentinas: El secreto del doctor Barbado*.

POETRY. Several works that should be listed were presented: J. Vega de Rivera, *Rutas, momentos, lejanías*; J. M. Sabater, *En la noche callada*; Concha Méndez Cuesta, with *Inquietudes*; Pilar de Valderrama, *Huerto cerrado*; J. Enrique Gippini, *Ahora que se abren las Rosas*; Mario Arnold, *Lluvia de besos*; J. A. Balseiro, *Música cordial*; and Marciano Zurita, *Himno a Burgos* (causing a great furor, and already set to music by the composer Calleja). The following items should be mentioned, although the works in some cases have not reached us and in others our information does not include the titles: Hermina Farfina has revealed herself as an admirable poet; and Carlos Lago won the prize at the Toledo *Juegos Florales*. The newspaper *A B C* established a poetic competition with four prizes in honor of the flight of the "Plus Ultra" from Madrid to Buenos Aires. The prize of 5000 pesetas was won by the young poet Antonio Martín Mayor, and one of the other three prizes was won by the poem *Y siempre España!* of Antonio Para Vico.

ERUDITION. The most interesting things in the scholarly output of Spain were the following: Marqués de Laurencín, *Don Agustín de Montiano y Luyando, Primer Director de la Real Academia de la Historia*; Rafael Altamira y Crevea, *Obras Completas*, vols. 56, 57, and 62; Graziela Barinaga y Ponce de León, *Estudio crítico biográfico de Emilio Bobadilla (Fray Candil)*; E. Gómez Baquero (Andrenio), *De Gallardo a Unamuno*; Duque de Berwick y de Alba, *El Mariscal de Berwick*; Institut d'Estudis Catalans, *Cròniques Catalanes, II*; E. Gutiérrez-Gamero, *Mis Primeros Ochenta años (Memorias)*; Darío Rubio, *La anarquía del lenguaje en la América Española*, 2 vols.; Atalo Castañs, *Galicismos, Barbarismos, Hispanismos*; Real Academia de la Historia, *Colección de documentos inéditos de Ultramar*, vol. 19; A. González Palencia, *Historia de la España Musulmana*; W. F. Lichter, *Lope de Vega's El Castigo del Discreto. Of Clásicos Castellanos*, vols. 66, Forner, *Enequias de la Lengua Castellana*, and 69, Calderón, *Autos sacramentales*, have reached us. The most outstanding event of the year was the presentation of the three-volume *Homenage a Ramón Menéndez Pidal*, to celebrate his twenty-five years of teaching.

ROYAL ACADEMY. Two members were elected to fill vacancies: Leopoldo Eijo y Garay, Bishop of Madrid-Alcalá, and Vicente García de Diego, philologist of the Instituto Cardinal Cisneros,



who has already taken his seat. After the death of the lamented Antonio Maura, Ramón Menéndez Pidal was unanimously elected director. In honor of Antonio Maura, the Academy established a prize of 10,000 pesetas to be awarded every four years, in connection with any topic the Academy may announce. This time the topic is *La Oratoria en España en el Siglo XIX*. The Fastenrath Prize was awarded to Angel de Valbuena y Prat, for his *Los autos Sacramentales de Calderón: Clasificación y análisis*. The Academy's own prize for a *Vocabulario de las Obras de Don Luis de Góngora y Argote* went to Bernardo Aleman y Sella, a professor in the University of Granada. The Hispano-American prize was won by the Porto Rican critic and poet, José A. Balseiro, with his essays on aesthetics, *El vigía*. The Premio Piquer, for the best dramatic work produced during the year, went to Joaquín Dicenta Alonso for his *Son mis amores reales*.

**NECROLOGY.** Spanish letters paid heavy tribute to death during 1926. Among the foreign correspondents of the Royal Spanish Academy there were two losses: Enrique Nercasseau y Morán (Chilean philologist and purist), and Manuel Salas Lavaquí (historian, grammarian, and secretary of the Chilean Academy). The native correspondent for Majorca, the poet and critic Juan Alcover y Maspons, passed on. There were also Henri Mérimée (the French Hispanist, director of the Institut Français at Madrid, who followed his father, Ernest Mérimée, all too soon); López Silvia (writer of witty, poetic sonnets that smacked of the soil); Alejandro Pérez Lugín (author of those very celebrated novels *La Casa de la Troya* and *Currito de la Cruz*, which were adapted both to the stage and the silver screen); and the Marqués de Villalinda, Luis Valera (q.v.). There were also three great losses from the Academy itself: the humanist, Adolfo Bonilla y San Martín; the naval Captain Manuel de Saralegui (purist and lexicographer), and Eugenio Sellés, Marqués de Gerona (journalist, publicist, and dramatist).

Adolfo Bonilla y San Martín, who was born in Madrid, Sept. 27, 1875, died there Jan. 18, 1926. He was one of the two favorite pupils of that greatest humanist of the nineteenth century, Marcelino Menéndez y Pelayo, the other of whom, Ramón Menéndez Pidal, as Director of the Spanish Royal Academy, in making the customary eulogy of a departed member, declared that Bonilla y San Martín "exemplified in himself humanism in a sense more ample even than had the illustrious Menéndez y Pelayo, directing his attention to fields much more varied than the master." His first chair, at the University of Valencia, was that of Commercial Law, in which he was so well versed that he published (in collaboration with others) a *Colección de Códigos de Comercio españoles y extranjeros*, and a *Tratado de Derecho Mercantil* and served as Counselor of the Bolsa de Comercio of Madrid, and member of the General Committee on Codification. For a quarter of a century he was professor of the history of philosophy in the University of Madrid, and Dean of its Faculty of Letters during the last years of his life. In the field of the history of philosophy he rose even higher than in law, and wrote two astounding volumes on the *Historia de la Filosofía Española*. Other outstanding philosophical works are his *Luis Vives y la Filosofía*

*del Renacimiento*, *Erasmus en España*, and *Fernando de Córdoba*. Bonilla wrote also concerning aesthetics, social history, and biography; and was a poet and novelist. He was furthermore an authority of first rank in belletristic studies, as witness his *Obras Completas de Menéndez y Pelayo*, *Libros de Caballerías*, *Tristán de Leonís*, *Libro de los Engaños*, *Diablo Cojuelo*, and (in collaboration with his friend Rudolph Schevill) eleven volumes of the *Obras Completas de Cervantes*. These varied scholarly activities explain the many honors that came to Bonilla.

**SPECIE MOVEMENTS.** See FINANCIAL REVIEW.

**SPECTROSCOPY.** See PHYSICS.

**SPENDER, EDWARD HAROLD.** English journalist and lecturer, died in London, April 15. He was born at Bath, England, June 22, 1864, and was educated at Bath College, where he became head boy in the year 1882-83. He then went to University College, Oxford, where he was exhibitioner. From 1889 to 1892 he was a lecturer for the Oxford University Extension Delegacy. Mr. Spender had begun his journalistic career one year before the expiration of his term as lecturer, with work on *The Pall Mall Gazette*. Later he was associated with *The Westminster Gazette*, *The Daily Chronicle*, *The Manchester Guardian* and *The Daily News*. His biography of General Botha, of South African fame, published in 1916, is noted. He also wrote a biography of David Lloyd George, 1920. Mr. Spender visited the United States in 1920 as one of the delegation from the British branch of the Sulgrave Institution, which presented statues of Edmund Burke, William Pitt and Lord Bryce to the American people. Mr. Spender's post-war books were biographies of former Prime Minister Asquith, 1915, and of Byron, in *Byron and Greece* (1924); and *Men and Mansions* (1925).

**SPIRITUALISM.** See PSYCHICAL RESEARCH.  
**SPIRITUALIST ASSOCIATION, NATIONAL.**

An organization maintaining the religious belief that the spirit world forms a counterpart of the world of common experience. Its members generally hold the doctrine of progression, after bodily death, into this spirit world, and of a final restoration of souls to a state of happiness. The belief is also generally held that those dying in childhood reach maturity in the spirit life. Right living upon earth is held essential to the future welfare in that life. Spiritualists generally oppose war, capital punishment, restrictive medical laws, and all measures believed to tend to political or religious oppression, and they believe in the Golden Rule as the measure of the highest morality. Spiritualism originated as a doctrine in the writings of Andrew Jackson Davis, published in 1845. Its local groups came into existence in considerable numbers in many parts of the United States between 1850 and 1872. The national organization of these groups took the form of the present association in 1893. In 1926 it comprised 22 State associations and many local societies and churches in territory outside the State organizations. There were 690 churches, about 600 ministers, and a church membership of about 126,000. Its mediums numbered approximately 1200. The general activities of the organization are carried on through four bureaus: that of Progressive Lyceums (Sunday Schools); the Bureau of Phenomenal Evidence; the Bureau of Propaganda; and the Bureau of

Education. The organization conducts the Morris Pratt Institute, Whitewater, Wis., and issues the periodicals *Progressive Thinker*, *Banner of Life*, *Reason*, *The National Spiritualist*. Officers in 1926 were: president, Joseph P. Whitwell, St. Paul, Minn.; secretary, Rev. Harry P. Strack, Washington, D. C.; treasurer, F. W. Constantine, Buffalo, N. Y. Headquarters are in Washington, D. C.

**SPONGES.** See ZOOLOGY.

**SPORTS.** Articles covering the activities in the various sports during 1926 will be found under such titles as **ATHLETICS**, **BASEBALL**, **FOOTBALL**, **RACING**, **TENNIS**, etc.

**SPRECKELS, JOHN DIEDRICH.** American capitalist and steamship owner, died at Coronado, Calif., June 9. He was born Aug. 16, 1853, at Charleston, S. C., and was educated at Oakland College, California, and at the Polytechnic School in Hanover, Germany. He was the son of Claus Spreckels, a leader in the sugar industry, and he early saw the need of ships in the development of that industry. While working for his father he began the enterprise which developed into the Oceanic Steamship Co., a pioneer in trans-Pacific trade. In 1880 he founded J. D. Spreckels & Bros., shipping and commission merchants. His other enterprises included the Western Sugar Refining Co., the Spreckels Sugar Co., the Pajaro Valley and San Diego Electric Railway Cos., the San Diego and Arizona Railway, the San Diego Union and Tribune Co., together with several banking houses and hotels. He was also proprietor of *The San Francisco Morning Call*. Mr. Spreckels was well known for his benefactions.

**SQUASH.** See RACQUETS.

**SQUIRE, WATSON CARVOSSO.** American Senator and territorial governor, died June 8. He was born at Cape Vincent, N. Y., May 18, 1838, and graduated from Wesleyan University in 1859. From 1859 to 1861 he was principal of the Moravia, N. Y., Institute, and in 1862 he took the LL.B. degree from the Cleveland, Ohio, Law School. In the Civil War he was a private and then first lieutenant in Co. F of the 19th New York Volunteers. He commanded a battalion of sharpshooters in the Chickamauga campaign. He was made judge advocate for the district of Tennessee, 1864-65, and in the last named year

he was breveted lieutenant colonel "for gallant and meritorious services." From 1884-87 he was governor of Washington Territory. In 1889 he was president of the State convention, and in the same year he became United States Senator. He was reelected in 1891. He was president of the Union Trust Co. as well as president of the Squire Investment Co., Seattle, Wash.

**STAMPS, MEMORIAL POSTAGE.** See CELEBRATIONS.

**STANFORD UNIVERSITY.** A non-sectarian, co-educational institution of higher education at Stanford University, Calif., founded in 1891 in memory of Leland Stanford, Jr. The enrollment for the fall term of 1926 was 3318, and for the summer session 1194. The faculty numbered 483. The productive funds of the University amounted to \$28,917,532.20, and the budget income for the year, including fees, was \$2,557,792.46. The library contained 459,878 volumes. Gifts received during the year were: for research and scholarships, \$158,766.02; special funds, \$16,752.04; for new buildings, \$202,917.77; for endowment \$225,435.99; and \$50,000 from the Rockefeller Foundation for development of the Hopkins Marine Station at Pacific Grove, California. President, Ray Lyman Wilbur, M.D.

**STANLEY, LADY DOROTHY.** See CURTIS, MRS. HENRY.

**STARCH.** See CHEMISTRY, under *Organic Chemistry*.

**STARS.** See ASTRONOMY.

**STATE BANKS, SAVINGS BANKS, ETC.** In the *Annual Report* of the U. S. Comptroller of the Currency, issued on Dec. 10, 1926, there were published summaries of reports received as of June 30, 1926, from the State banking departments of the several States and from individual private banks not under State supervision. These reports related to 20,168 banks, or a decrease from 20,769 reporting on June 30, 1925. There were included returns from 16,493 state (commercial) banks, 904 stock savings banks, 620 mutual savings banks, 1656 loan and trust companies, and 495 private banks. The resources and liabilities of these 20,168 reporting banks, other than national, are shown in the accompanying table.

RESOURCES AND LIABILITIES OF 20,168 STATE (COMMERCIAL) BANKS, LOAN AND TRUST COMPANIES, SAVINGS AND PRIVATE BANKS, JUNE 30, 1926  
[In thousands of dollars]

Resources	16,493 State (commercial) banks	1,656 loan and trust companies	620 mutual savings banks	904 stock savings banks	495 private banks	20,168 total banks
Loans and discounts	9,703,248	6,754,087	4,623,594	1,409,868	92,559	22,583,356
Overdrafts	85,487	3,438	.....	306	520	39,751
Investments (including premiums on bonds)	3,220,400	2,806,780	3,406,104	504,098	35,506	9,972,888
Banking houses (including furniture and fixtures)	454,801	265,819	82,486	52,302	4,850	860,208
Other real estate owned	152,115	47,607	10,778	24,413	8,135	243,048
Due from banks	1,045,705	463,113	211,258	118,657	20,894	1,859,627
Lawful reserve with Federal reserve bank or other reserve agents	777,430	730,494	.....	34,443	3,048	1,545,415
Checks and other cash items	261,547	484,051	1,364	12,045	607	759,614
Exchanges for clearing house	161,625	45,708	399	3,745	74	211,551
Cash on hand	405,372	170,542	29,600	26,916	4,139	636,569
Other resources	861,926	433,557	56,774	9,684	8,820	865,711
<b>Total resources</b>	<b>16,579,656</b>	<b>12,205,196</b>	<b>8,422,307</b>	<b>2,196,427</b>	<b>174,152</b>	<b>39,577,738</b>
<b>Liabilities</b>						
Capital stock paid in	1,092,424	672,959	.....	85,153	9,895	1,860,431
Surplus	696,901	814,250	702,974	47,833	11,111	2,273,069
Undivided profits (less expenses and taxes paid)	254,767	179,955	128,875	20,217	1,770	585,584
Due to all banks	566,536	854,297	99	8,959	1,258	1,431,149

**RESOURCES AND LIABILITIES OF 20,168 STATE (COMMERCIAL) BANKS, LOAN AND TRUST COMPANIES, SAVINGS AND PRIVATE BANKS, JUNE 30, 1926—Continued**

*[In thousands of dollars]*

Certified checks and cashiers' checks . . .	97,927	51,180	20	502	228	149,857
Individual deposits (including dividends unpaid and postal savings) . . . . .	13,158,075	8,900,928	7,577,504	2,021,614	131,763	31,789,884
United States deposits (exclusive of postal savings) . . . . .	10,299	83,024	.....	.....	.....	43,823
Notes and bills rediscounted . . . . .	68,588	44,047	.....	1,911	837	114,833
Bills payable (including advances received from War Finance Corporation and certificates of deposit representing money borrowed) . . . . .	247,666	124,019	845	3,375	10,948	386,853
Other liabilities . . . . .	886,523	530,587	12,490	6,868	6,842	943,255
<b>Total liabilities . . . . .</b>	<b>16,579,656</b>	<b>12,205,196</b>	<b>8,422,807</b>	<b>2,196,427</b>	<b>174,152</b>	<b>39,577,738</b>

The principal items of resources and liabilities of reporting banks other than national, for years ended on or about June 30, 1922, to 1926, are shown in the statement following:

\$4,204,000 in the year. The liability on account of notes and bills rediscounted, \$114,833,000, and other obligations representing money borrowed, \$386,353,000, were increased in the year

**CONSOLIDATED RETURNS FROM STATE (COMMERCIAL), SAVINGS, PRIVATE BANKS, AND LOAN AND TRUST COMPANIES**

*[In thousands of dollars]*

Items	1922	1923	1924	1925	1926
Loans * . . . . .	16,501,893	18,459,827	19,359,419	21,073,990	22,623,107
Investments . . . . .	7,984,242	8,602,844	9,086,417	9,669,669	9,972,888
Cash . . . . .	508,711	505,993	566,281	591,681	636,569
Capital . . . . .	1,636,734	1,723,476	1,780,192	1,800,276	1,860,431
Surplus and undivided profits . . . . .	2,090,012	2,206,818	2,356,855	2,580,134	2,858,653
Deposits (individual) . . . . .	23,929,952	25,990,785	28,100,938	30,411,030	31,789,884
Resources . . . . .	29,719,357	32,523,145	34,578,771	37,706,174	39,577,738

\* Including overdrafts.

A summary of the combined returns of 20,168 reporting banks other than national June 30, 1926, showed aggregate resources of \$39,577,738,000, and exceeded the returns from 20,769 associations on June 30, 1925, in the sum of \$1,871,504,000. Loans and discounts of \$22,583,356,000 were \$1,550,273,000 more than in the preceding year; overdrafts of \$39,751,000 showed a reduction of \$1,156,000, and total investments in bonds and securities were increased from \$9,669,669,000 to \$9,972,888,000.

Banking houses, furniture and fixtures, \$860,208,000, were \$44,376,000 more in the current year, and other real estate owned, \$243,048,000, was increased by \$18,753,000.

Balances due from correspondent banks and bankers, including lawful reserve with the Federal reserve bank or other reserve agents amounted to \$3,405,042,000, and showed a decrease of \$75,565,000; checks and other cash items a reduction of \$44,319,000, and exchanges for clearing house a reduction of \$27,115,000. Cash on hand was increased \$44,888,000, or from \$591,681,000 to \$636,569,000. Other resources showed an increase of \$58,210,000.

With the exception of amounts due to correspondent banks and bankers, which showed a reduction of \$53,360,000, all liability items showed increases over the returns of the preceding year.

The paid-in capital stock aggregating \$1,860,431,000 showed an increase of \$60,155,000; surplus of \$2,273,069,000, an increase of \$218,663,000, and undivided profits of \$585,584,000 showed an increase of \$59,856,000.

The amount of individual deposits rose from \$30,411,030,000 to \$31,789,884,000, certified checks and cashiers' checks outstanding were more by \$11,252,000, and United States deposits of \$43,323,000 showed an increase of

\$20,808,000 and \$34,083,000, respectively. Other liabilities were increased by \$137,049,000.

**STATEN ISLAND. ANNIVERSARY OF CONFERENCES DURING AMERICAN REVOLUTION.** See CELEBRATIONS.

**STATE SYMPHONY ORCHESTRA.** See MUSIC.

**STEAM.** See BOILERS.

**STEAMBOAT INSPECTION SERVICE,** UNITED STATES. See SAFETY AT SEA.

**STEAM ENGINES.** The uniflow engine continued to be the predominating type installed in 1926, being used for the first time in a blooming mill, the unit having a maximum rating of 30,000 i.h.p. The largest Corliss engine to be built in 20 years was installed in a steel mill, while a cross-compound, non-condensing, poppet-valve Corliss engine using steam at a temperature of 686° F. was also built. A Corliss engine was designed for the Medical Centre refrigerating plant, New York City. In connection with the uniflow engines, improvements were devised which control the amount of steam going to process and that to the condenser, in much the same way as was done in the bleeder turbine.

**STEAM TURBINES.** The leading features of development in steam turbines during 1926 were the building of more units of large capacity, the increased use of regenerative heating of feed water by steam from the main turbine unit, the introduction of live steam reheaters, and the general improvement of turbines of small capacity through refinements which had been developed for larger units. Other features, as indicated in the "Review" for the year in *Power* were the wide use of bleeding and high-back-pressure turbines to combine power heating and processes, and the employment of condensers of improved design and less surface. During the year, orders were placed with the General Elec-

tric Co. for two 90,000-kw. steam turbines for installation by the Southern California Edison Co., and for a 208,000-kw. turbine generator for the new State Line Station of the State Line Generating Co., near Hammond, Ind., at the southern end of Lake Michigan, to be completed in 1928. A 104,000-kw. unit also was ordered for Chicago.

A compound unit of 160,000-kw. capacity was ordered from the American Brown Boveri Co., for the Hell Gate station of the United Electric Light and Power Co., New York, a cross-compound machine with a 75,000-kw. high-pressure unit running at 180,000 r.p.m. and an 85,000-kw. low-pressure unit running at 1200 r.p.m. Steam was to be supplied at 265 pounds per square inch gauge with 200° F. superheat and the steam to be extracted at two stages to heat the feed water. The generators were designed for 0.85 power factor and to generate at 13,200 to 14,500 volts. The unit will weigh 1400 tons and occupy a floor space 25½ by 69 feet.

The State Line Station unit mentioned above, of 208,000-kw. capacity, will produce energy sufficient to care for a good-sized city. It will require each hour, for steam generating, 120 tons of low-grade Illinois coal, while 24,000,000 gallons of condenser cooling water will be pumped, and 21,000,000 cubic feet of cooling air will be required for the generator. This machine has a high-pressure element of 76,000-kw. capacity, and two low-pressure elements of 66,000-kw. capacity. The steam supplied to the high-pressure turbine at 600 pounds gauge and 730° F. will be exhausted to a reheater using live steam, and after having been raised to a temperature of 500° will be passed to the two low-pressure turbines. The generator, which is designed to generate current at 18,000 volts, will be the largest 1800-r.p.m. generator ever made. The largest turbo-generator to go into service during the year was the 80,000-kw. unit of the Brooklyn Edison Company.

**STEDMAN, HENRY RUST.** American physician and psychiatrist, died February 20. He was born at Boston, Mass., on Sept. 19, 1849, and was educated at Harvard, where he took his A.B. in 1871, and his M.D. in 1875. He was medical house officer at the Boston City Hospital, 1872-73, and surgical house officer at the Massachusetts General Hospital, 1873-74. He visited Europe to acquire experience in foreign methods of treatment, serving as assistant physician at the Edinburgh Royal Asylum, and at the West Riding Asylum, Yorkshire, England, 1881. From 1884 to 1918 he was superintendent and resident physician of the Bournewood Hospital for Mental Diseases, Brookline, Mass. He was a member (president, 1905-06), of the American Neurological Association, and other medical societies. He published many articles in the medical press on the subject of nervous and mental disorders.

**STEEL.** See IRON and STEEL.

**STELLAR EVOLUTION.** See ASTRONOMY; PHYSICS.

**STEVENS INSTITUTE OF TECHNOLOGY.** A non-sectarian institution for the technical education of men, at Castle Point, Hoboken, N. J.; founded in 1870. The enrollment for the autumn of 1926 was 436, and for the summer session of the same year, 93. There were 50 members on the teaching staff. The productive funds amounted to \$2,750,000, and

the income for 1925-26 was \$235,000. The library contained about 17,500 volumes. During the year the Institute received \$52,000 for endowment and other specified purposes, of which the largest single item was \$12,500 by the will of William D. Hoxie. On October 21 President Humphreys presented his resignation after 25 years of service, to take effect June 5, 1927. President, Alexander C. Humphreys, M.E., E.D., Sc.D., LL.D.

**STEVENSON OF HOLMBURY, BARON (JAMES STEVENSON).** A British industrialist, and founder of the British rubber control plan, died at Holmbury, Surrey, England, June 10. He was born at Kilmarnock, Scotland, Apr. 2, 1873, and was privately educated. His chief business interest was the company known as John Walker & Sons, Ltd., whisky distillers, of Kilmarnock, of which company he was for many years the managing director. He rose to prominence in the early days of the World War, serving on the board of the Ministry of Munitions, as director of area organization, as vice-chairman of the advisory committee, and as a member of the central reconstruction committee. He was also a member of the munitions council for ordnance and chairman of the Council Committee of Demobilization and Reconstruction. In 1917 he was created a baronet. At different times he was surveyor-general of supply of the War Office, member of the army council, member of the air council, vice-chairman of the advisory committee on civil aviation, and finally, chairman of the rubber investigation committee and personal commercial adviser to the Secretary of State for the Colonies. In these two capacities he was responsible for the scheme of restricting the supplies of rubber produced and exported. This plan was known by his name and exerted a powerful influence on the world's industrial markets concerned with rubber and rubber goods. He was created a G.C.M.G. in 1922, and in 1924 he became first Baron Stevenson of Holmbury. For his manifold services to the allied cause in the World War, the French Government made him a Commander of the Legion of Honor.

**STEWART, JOHN AIKMAN.** American banker, died December 17, in New York. He was born Aug. 21, 1822, in New York City, and attended public school there. He then went to Columbia College, and after a few years as a civil engineer he was appointed clerk of the board of education of New York City. In 1850 he became actuary of the United States Life Insurance Co., and on the organization of the United States Trust Co., in 1853, the first American trust company chartered exclusively to render fiduciary service, Mr. Stewart became its secretary. In 1856, on the resignation of the first president, Joseph Lawrence, Mr. Stewart was elected president in his place. He was financial adviser to President Lincoln during the Civil War. In Lincoln's administration he was assistant treasurer of the United States, and he held the same post under Grover Cleveland in 1894. In 1868 he became a trustee of Princeton University, discharging the duties of this office for 58 years. For a short period he acted as president of Princeton University, during the absence of Woodrow Wilson.

**STOCKING, WILLIAM ALONZO.** American dairy husbandman, died February 3. He was born at Simsbury, Conn., May 13, 1872, and

graduated from the Connecticut Agricultural College in 1895. Three years later he received the B.S.A. degree from Cornell University, and that of M.S.A. in 1904. From 1906-09 he was assistant professor of dairy industry in Cornell University, and from 1909 to his death was professor. In 1913-14 he was acting director of the New York State College of Agriculture at Cornell University. He was a member of the American Society of Bacteriologists, and from 1916-18 was president of the American Dairy Science Association. He was the author of *A Manual of Milk Products*.

**STOCKMAN, SIR STEWART.** British veterinarian, died June 3. He was born in Scotland Sept. 27, 1869, and was educated at the Royal High School, Edinburgh, and at the Royal Veterinary College, Edinburgh. He afterwards studied in Paris and Brussels. He was a member of the Royal College of Veterinary Surgeons and was appointed professor of pathology and bacteriology in the Royal Veterinary College, Edinburgh, a post he held from 1892 to 1899. In 1900 he served in South Africa during the Boer War, and received a medal with four clasps in recognition of his various services. In 1902-03 he served in the Indian civil service veterinary department, and from 1903 to 1905 he was principal veterinarian of the Transvaal department of agriculture. In addition to numerous reports appearing in government blue books and articles in the veterinary press, he was the author of *A Textbook of Meat Inspection*. He was knighted in 1913.

**STOCKS AND BONDS.** See FINANCIAL REVIEW; RAILWAYS.

**STONE.** The total production of stone in 1925, as reported by the U. S. Bureau of Mines, with figures for sandstone and limestone not available, totalled 115,851,370 short tons, valued at \$174,216,792, as compared with 103,184,120 tons valued at \$161,870,113 in 1924. The 1925 production, with value, included 8,074,200 tons of granite, \$30,531,347; basalt and trap rock, 11,842-110 tons, \$14,770,042; sandstone, 4,479,330 tons, \$10,920,016; marble, 504,150 tons, \$13,882,457; limestone, 85,649,440 tons, \$98,008,028; and other stone to the amount of 5,242,140 tons, valued at \$6,104,902. The principal item in 1925 was crushed stone, which was valued at \$80,508,429, followed by building stone valued at \$35,448,809; furnace flux to the amount of \$17,344,190, and monumental stone, \$14,401,339. The imports of stone during the year 1926 consisted of marble, breccia, and onyx valued at \$64,507, and building and monumental stone valued at \$981,097.

**STONE, GALEN L.** American financier, died at Brookline, Mass., December 27. He was born at Leominster, Mass., in 1862, and became a reporter on *The Commercial Bulletin*. His connection with this paper showed him the necessity for studying the investment market at first hand, and he took a situation with a brokerage firm. Here he met Charles Hayden, a graduate of the Massachusetts Institute of Technology, and the two decided to go into partnership. About 1890 they founded the investment house of Hayden, Stone & Co. In a short time they had extended the sphere of their operations from copper companies to include steamships, railroads and other enterprises, and at one time Mr. Stone was a director of more than 20 large companies. In 1923 he retired to

give his time to his artistic, musical, and philanthropic interests, and in 1924 he presented a collection of valuable Chinese paintings to the Fogg Art Museum of Harvard. In 1925 he gave \$75,000 to the cause of negro education. He was a trustee of Wellesley College, and was at one time a vice-president of the Boston Symphony Orchestra.

**STORROW, JAMES JACKSON.** American banker, died March 13. He was born at Boston, Jan. 21, 1864, and was educated at Harvard, graduating in 1885, and receiving the degree of LL.B. in 1888 for work in the law school. He was a director of numerous companies and institutions, among them being the United States Smelting, Refining and Mining Co., the United States Mining Co., the Centennial Eureka Mining Co., etc. In 1900 he became a member of the firm of Lee, Higginson & Co., bankers, of Boston.

**STRAITS SETTLEMENTS.** A British crown colony in Malaysia, consisting of Singapore, Penang (with Province Wellesley and Dindings), and Malacca. The area is approximately 1600 square miles; population, according to the census of 1921, 883,769; estimated in 1924, 960,952. The estimates for the various parts in 1924 were as follows: Singapore, 217 square miles, with 474,817 inhabitants; Penang (with Province Wellesley and Dindings), 280 square miles, with 315,841 inhabitants; Malacca, 720 square miles, with 170,294 inhabitants. In 1924 there were 181,430 immigrants from China and 43,147 from Southern India. The movement of population in 1924 was: Births, 31,028; deaths, 26,358. The seat of the government is Singapore, one of the great ports of the East, containing the greater part of the population of the island of Singapore. In 1924 there were 204 schools (all government-aided), with an enrollment of 38,607, and an average attendance of 36,045. The chief interest is commerce, mostly transit trade (the ports are free from customs duties). The centre of trade is Singapore. The accompanying table from the *Statesman's Year Book* for 1926 shows exports and imports, exclusive of treasure, in 1924:

	Imports 1924 £	Exports 1924 £
Singapore .....	74,309,889	64,284,550
Penang .....	26,503,727	25,905,801
Malacca .....	2,656,970	3,430,448
Labuan .....	389,987	382,895
Christmas Islands .....	50,155	282,791
Dindings .....	98,257	800,074

The chief imports in that year, according to value, were: Para rubber, tin ore, rice, cotton piece goods and yarn, tobacco, cigars, and cigarettes, sugar, and dried and salted fish. The chief exports, also according to value, were: Para rubber, tin, copra, pepper, preserved pineapples, tapioca, and sago. In 1924 the revenue was £3,341,235 and the expenditure £3,115,737. The total number of merchant vessels entered at the ports of the colony in the same year, exclusive of native craft, was 9859, with a tonnage of 16,326,880 tons; native craft, 30,948 of 1,120,157 tons. The number of vessels cleared was 9845 of 16,290,221 tons; native craft, 31,973 of 1,161,768 tons.

There are railways from Singapore to Woodlands on the Johore Straits; from Parit Buntas

in Krian to a point in Province Wellesley; from Malacca to Tampian in Negri Sembilan. The administration is under a governor, aided by an executive council of official members, and a legislative council of official and unofficial members, the latter being nominated or selected by the chambers of commerce of Singapore and Penang. Governor in 1926, Sir Laurence N. Guillemard (also high commissioner for the Federated Malay States and Brunei, and British Agent for North Borneo and Sarawak). Under the administration of the Straits Settlements are the Christmas Islands (q.v.), annexed in 1900; Cocos or Keeling Islands, annexed in 1903; and the colony of Labuan, annexed Jan. 1, 1907.

**STRAUS, OSCAR SOLOMON.** American diplomat and publicist, died May 3. He was born at Otterberg in Rhenish Bavaria, Dec. 23, 1850, and with his family moved to the United States, where he lived, first at Talbotton, Ga., and later at Columbus, Ga., until 1865, when he removed to New York. In 1871 Mr. Straus graduated from Columbia College and then studied at the Columbia Law School, graduating in 1873. In 1887-89 he was minister to Turkey, and his services were so satisfactory that President McKinley reappointed him to the same post in 1897 and he remained in it until 1900. In 1902 he filled the place of Ex-President Harrison as a member of the Permanent Court of Arbitration at The Hague. Mr. Straus was Secretary of Commerce in the cabinet of President Roosevelt, 1906-09, ambassador to Turkey, 1909-10, Progressive candidate for the governorship of New York, 1912, and in 1915 was appointed chairman of the Public Service Commission (first district) of New York State. He was noted for his active and practical philanthropy, especially among the New York poor. His published works include: *The Origin of the Republican Form of Government in the United States* (1885; 2nd ed., rev., 1901); *The Development of Religious Liberty in the United States* (1896); *United States Doctrine of Citizenship* (1901); *The American Spirit* (1913); and *Under Four Administrations* (1922).

**STREETS.** See ROADS AND PAVEMENTS.

**STREETS AND STREET EXTENSION.**

See CITY PLANNING.

**STRIKES AND LOCKOUTS.** SUPREME COURT DECISION OF OCTOBER 25. "It now seems clear that our various State legislatures may declare strikes for certain objects to be unlawful, and anyone urging such a strike may be deemed guilty of a felony and be subjected to fine and imprisonment. This decision in the *Dorchy* case will undoubtedly be the forerunner of several attempts to curtail the right of labor unions to strike."

It was with this comment that *The American Federationist* (organ of the American Federation of Labor) greeted the decision of the United States Supreme Court on October 25, upholding the constitutionality of the Kansas statute making strikes under certain conditions and for certain purposes illegal. The Kansas statute was part of the Industrial Court Act, designed to regulate labor disputes by State means. It declared strikes in mines illegal, and also in the case of other disputes it provided an industrial court for the submission of grievances. A union leader named *Dorchy* ignored this latter provision of the law, and

called a strike in order to enforce a wage claim for a fellow-member. The Supreme Court held that in view of the fact that he ignored the existing machinery for the settlement of such a claim, he could be prosecuted, under the State law, for extortion. The decision was written by Justice Brandeis, and said, in part:

The right to carry on business—be it called liberty or property—has value. To interfere with this right without just cause is unlawful. The fact that injury was inflicted in a strike is sometimes a justification. But a strike may be illegal because of its purpose, however orderly the manner in which it is conducted. To collect a stale claim due to a fellow-member of the union who was formerly employed at the business is not a permissible purpose.

To enforce payment by a strike is clearly coercion. The legislature may make such action punishable criminally as extortion, or otherwise. And it may subject to prosecution him who uses the power of influence incident to his office in a union to order the strike. Neither the common law nor the Fourteenth Amendment confers the absolute right to strike.

It is significant that another feature of the Kansas Industrial Court Act, providing for the regulation of wages and hours, has been invalidated through recent decisions of the Supreme Court both in a case arising out of this act and in a case arising out of a similar statute elsewhere. (See 1925 YEAR BOOK, under LABOR ARBITRATION.)

**HISTORY.** For an account of the British coal strike and the nine-day general strike which was provoked by it, see under GREAT BRITAIN, *History*. In the United States, the leading strikes during the year were the anthracite coal strike, which began in September, 1925, and was settled on Feb. 18, 1926; the strikes of furriers and of the cloak and suit unions in the New York district; and the strike of textile operators in New Jersey mills.

The coal strike settlement came after months of ineffective intervention on the part of the Governor of Pennsylvania and on the part of representatives of the United States Department of Labor. Suddenly, however, a settlement was drawn up through secret negotiations between President Lewis, of the miners' union, and Richard Grant, head of the Susquehanna Collieries Co., who had previously held conferences with the operators. The settlement was signed on February 12, it was ratified by the assembled miners on February 16, and the digging of coal began on February 18. The strike had lasted since September 1, had tied up 272 collieries and 828 mines owned by 135 companies, and had brought about a shortage in coal estimated at 30,000,000 tons. The wage loss was \$1,150,000 a day.

Under the terms of the settlement, the miners and the operators signed a 4½-year wage contract at the rates in effect when the strike began. As regards compulsory arbitration, which had been the principal stumbling block to an early settlement, a compromise was effected. See COAL.

The other strikes that we have mentioned above were caused directly or indirectly through Communist or "left wing" activities within the ranks of American labor. It should be noted, however, that the textile strike which began in Passaic, N. J., on January 25, falls in a class by itself. Though organized by a professed Communist, Albert Weisbord, this strike won much public sympathy because it was a fight against bad working conditions, and also

because of the arbitrary police methods which were invoked by the mill owners to fight the walk-out. It should be added that the 11,700 men who walked out under the leadership of Weisbord had previously been ignored by the American Federation of Labor; the union was afterwards turned over to the regular organization when it was seen by Weisbord himself that his continued leadership was an obstacle to a settlement.

The strike, however, was in a large measure a failure. The men had contended for the recog-

York joint board and made the best terms he could with the "inside manufacturers." But, as he was unable to hold the jobbers or merchants responsible for conditions among the numerous and small contracting establishments, chaotic conditions resulted in this part of the trade. The cost of the strike to the union was at least \$2,500,000 (exclusive of the wage loss to the men); and besides facing an empty treasury and mortgaged buildings, the union had to recognize that the physical strength of the organization was gone.

NUMBER OF DISPUTES IN SPECIFIED INDUSTRY GROUPS

Industry	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Building trades	394	468	434	473	521	583	113	208	270	350
Clothing industry	227	495	486	322	356	240	240	395	228	231
Furniture industry	50	43	26	35	26	17	4	12	35	55
Iron and steel workers	72	56	74	76	25	25	10	10	7	7
Leather workers	34	19	16	27	32	26	17	17	5	5
Lumber industry	44	299	76	46	38	25	10	19	6	9
Metal trades	547	515	441	581	452	194	83	113	58	48
Mining industry	416	449	208	176	183	95	49	159	178	103
Paper manufacturing	54	41	40	47	39	42	12	16	6	6
Printing and publishing	27	41	40	71	83	506	56	19	12	14
Shipbuilding	31	106	140	109	45	20	4	6	1	.
Slaughtering, meat cutting, and packing	70	38	42	74	42	30	6	11	14	2
Stone	61	26	14	13	29	34	61	15	15	17
Textile	261	247	212	273	211	114	115	134	80	137
Tobacco	63	47	50	58	38	19	13	16	12	4
Transportation, steam and electric	228	343	227	191	241	37	67	31	18	7

nition of the union, for the restoration of the 10 per cent wage cut of October, 1925, and for an additional increase of 10 per cent. When a settlement was finally effected in mid-December with the most important mill, all that the strikers secured was a recognition of the union. The fight against the other mills was being continued at the end of the year, and there seemed no definite likelihood that these mills would abandon their open-shop attitude.

Both the furriers' and the cloakmakers' strikes were brought about through the victory of Communist elements within regularly organized American Federation of Labor unions. In the case of the furriers, a strike which lasted 17 weeks was called early in the year by the joint board managing the New York locals. The strike, under the leadership of the Communist Ben Gold, was more or less successful, since the men succeeded in gaining at least one objective, the five-day week in those months when there is little work. However, when the management of the strike was investigated by the American Federation of Labor officials, a great amount of graft and corruption was revealed. The cost of the strike to the union was well over \$1,000,000.

The cloakmakers' strike, also called by the Communist joint board in charge of the New York locals, was the most disastrous in the history of that union. Refusing to accept the report of the Governor's mediation board as a basis for a new agreement with the manufacturers and jobbers, the Communist element had called the strike to enforce a number of demands, such as a 40-hour week, a guarantee of a minimum employment period, and the responsibility of the jobbers in enforcing union conditions on the contractors. The strike lasted from July 1 to the end of December, and involved 40,000 men. In the end, the management had to be taken over by President Sigman of the International Union, who removed the New

NUMBER OF MEN DIRECTLY INVOLVED IN STRIKES

1916	1,599,917	1921	1,099,247
1917	1,227,254	1922	1,612,562
1918	1,289,989	1923	756,584
1919	4,160,848	1924	654,641
1920	1,463,054	1925	428,218

**STUDENTS IN UNIVERSITIES AND COLLEGES.** See article, UNIVERSITIES AND COLLEGES.

**STYRIA**, stîr'î-â. A crownland of Austria before the collapse of the Austro-Hungarian Empire; the greater part of Styria was retained in the new republic of Austria after the treaty. Area before the war, 8802 square miles, with a population of 1,441,157 (as estimated on Dec. 31, 1910). Area and population, according to the census of Mar. 7, 1923, 6323 square miles and 978,845 inhabitants.

**SUBMARINES.** See VESSELS, NAVAL, ETC.; NAVAL PROGRESS.

**SUBWAYS.** See RAPID TRANSIT.

**SUDAN**, ANGLO-EGYPTIAN. A territory in the Nile region of Africa, extending south from Egypt to British East Africa and the Belgian Congo; bounded on the east by the Red Sea, Eritrea, and Abyssinia, and on the west by French Equatorial Africa; under British authority. Area estimated at 1,014,400 square miles; population in 1924 estimated at 5,825,247. Capital, Khartum, with a population of 30,627; other cities, Omdurman, 78,024; Khartum North, 14,319. On Jan. 1, 1925, the elementary vernacular schools numbered 91 with about 7,670 pupils; there are also 10 primary schools. The principal products are gum arabic and ivory, of which latter product the country is the chief source; sesame, senna, peanuts, hides and skins, dates, durra (the principal grain crop), and gold. The acreage under cotton in 1924 was given at 111,666 acres, and the 1924-25 crop was estimated at 8100 tons of lint and



16,200 tons of cotton seed. A considerable increase was expected in 1925-26 because of the completion of the Sennar dam and the extension of rain-grown cotton. Of minerals, gold is the only one that has been successfully exploited. No later statistics on commerce were available than those given in the preceding YEAR BOOK, when exports and imports were valued at ££9,382,108. The budget estimates for 1925 balanced at ££3,688,000. The railroad mileage is approximately 1800, and there is regular service by government passenger and cargo steamers for about 2500 miles on the Nile and its tributaries. Under a convention between the British and Egyptian governments signed at Cairo, Jan. 19, 1899, the region south of the 22nd parallel of latitude is administered by a governor-general appointed by the Egyptian government with the assent of Great Britain. The Sudan has been divided into 15 provinces, each under a governor. Since 1910 the governor-general has been assisted by a council. Governor-general in 1926, Sir G. F. Archel.

**SUEZ CANAL.** In 1925 a new record was made at the Suez Canal by the passage of nearly 27,000,000 tons of shipping. This emphasized the importance of the improvements in progress in accordance with the 1921 programme which aimed at a depth throughout the canal of 42 feet 6 inches and a widening of the deep-water channel throughout the navigation, along with the reduction of curves. In 1925 the record for cargo tonnage made in 1913 with the passage of 25,776,000 tons of cargo through the Canal was broken by the passage of 26,578,000 tons. Likewise there was an increase in the average size of vessels in 1925, so that in that year the net tonnage amounted to 26,762,000 tons, as compared with the previous record of 20,275,000 tons made in 1912. The number of transits in 1925 was 5337, as compared with 5373 in 1912.

The net tonnage of ships passing through the Suez Canal in 1926 failed to reach the record established in 1925, which year was the most prosperous in the history of the Suez Canal. The number of ships passing through totaled 4980 or 357 less than in 1925, and 393 less than in the pre-war record year of 1912. The average net tonnage per ship increased from 3,773.51 tons in 1912 to 3,939.82 tons in 1913, to 4,902.38 tons in 1924, to 5,014.61 tons in 1925 and to 5,232.93 tons in 1926. The average size of American ships transiting the Suez Canal in 1926 was 6,117.78 tons.

The accompanying table gives the Suez Canal commercial traffic statistics by flags for the year ending June 30, 1926.

In 1925 shipping under the American flag passing through the Suez Canal reached 732,000 tons or 33 per cent of the tonnage to and from the United States in that year, which was 212,000 tons of net tonnage and 2,388,000 tons of cargo tonnage. In 1925 ships of a single American line, which had established in 1924 a westward round-the-world fortnightly service, to the amount of 184,000 net tons passed through the Canal. In 1925, 19 American tank ships totaling 129,000 net tons with mineral oil cargoes passed southward through the canal and 10 of these vessels passed northward in ballast after discharging their cargoes bound for New York. No American tanker was noted in the canal in 1913.

**SUEZ CANAL COMMERCIAL TRAFFIC STATISTICS, YEAR ENDED JUNE 30, 1926**

[This statement, compiled from the Suez Canal Bulletin, includes all vessels transiting the canal]

Flag	Number of transits	Gross tons	Net tons
American	124	1,021,524	762,983
Belgian	3	15,226	11,000
British	2,800	20,799,411	15,028,998
Danish	79	454,815	327,971
Dutch	521	3,718,154	2,701,721
Egyptian	4	8,560	6,123
Ecuadorian	1	2,269	1,618
Finnish	6	24,427	18,394
French	387	2,446,410	1,684,114
German	886	2,708,212	1,940,027
Greek	32	114,011	84,951
Italian	324	1,883,267	1,322,198
Japanese	159	1,279,039	943,716
Norwegian	107	622,719	458,927
Panamanian	1	20,669	13,324
Portuguese	2	3,793	2,386
Russian	6	52,298	37,466
Siamese	2	2,018	1,840
Spanish	23	101,611	73,207
Swedish	58	365,611	270,514
Yugoslavian	1	5,759	4,187
Total	4,976	35,579,683	25,690,095

NOTE: The total tolls collected during the year ended June 30, 1924, were 177,567,000 francs (\$34,270,481, normal rate), and the total merchandise carried was 23,914,000 weight tons; for 1925 the corresponding figures were 198,357,000 francs (\$38,282,901) and 27,187,000 weight tons; for 1926 they were 185,329,000 francs (\$35,768,497) and 25,431,000 weight tons. The weight of merchandise carried is based upon reports of masters, which are expressed in avoirdupois and metric tons (2,240 and 2,204 pounds, respectively) and in cubic-feet tons (40 to 50 cubic feet to the ton), so that it is only approximately correct.

**SUGAR.** The world sugar production for the season 1926-27, as estimated by Willett and Gray on Dec. 16, 1926, was 23,217,000 tons, a decrease of 1,167,810 tons compared with the preceding year, and about 400,000 tons less than in 1924-25. Of the total production in 1926-27, 15,452,000 tons was from cane crops and 7,765,000 from beets. The production of sugar from cane in Louisiana was only 88,000 tons, compared with 124,447 tons in 1925-26. Much interest had been aroused in that State in the production of sugar from beets, and successful experiments were made during the year, by the experiment station, in the adaptation of cane mills to handling beets. Root rot and the borer had increased the difficulties of growing sugarcane in that State. A combination of cane and beet would serve to extend the season of operating sugar houses.

Cuba is by far the largest producer of sugar of all countries, about one-third of the total crop of sugar from cane being credited to that country. The unusually heavy crop in 1924-25, amounting to 5,126,000 tons, and the prospect of another heavy crop in 1925-26, caused much apprehension early in the year because of the attendant effect on world prices and the fear that the price would be depressed below cost of production. This brought about proposals in Cuba for curtailment of the 1925-26 crop, resulting in a decree restricting that crop to 90 per cent of the indicated production. This reduced a prospective crop of over 5,300,000 tons to about 4,769,000, later adjusted to 4,884,658. This restriction having little immediate effect on prices, President Machado early in September prohibited the harvesting of the 1926-27 crop, then growing, until after Jan. 1, 1927. This had some effect on prices, but to meet the



situation further, a decree was issued November 18 curtailing the crop to 4,500,000 tons. This caused the market to advance rapidly. See CUBA.

Estimates of the other leading countries, as reported by Willett and Gray, were as follows, in tons: British West Indies, 208,000; French West Indies, 80,000; Dominican Republic, 335,000; Mexico, 175,000; Central America, 103,000; Brazil, 700,000; Argentina, 486,000; Peru, 275,000; other South American countries, 145,000; British India, 3,000,000; Java, 1,970,000; Formosa and Japan, 450,000; Philippine Islands, 520,000; Australia, 425,000; Fiji Islands, 85,000; and Africa, 617,000.

The sugar-beet acreage in the United States was somewhat larger than in 1925, but still considerably below that of 1924. The year was a favorable one, however, and the estimated production, 7,537,000 tons of beets, was larger than for either of the two preceding years. Beet-sugar production was estimated at 810,000 tons, compared with 804,439 in 1925 and 974,185 in 1924. In Europe, Germany led in beet-sugar production, with an estimated outturn of 1,675,000 tons, followed by Czecho-Slovakia with 1,050,000; Russia and Ukraine, 900,000; France, 700,000; Poland, 575,000; Italy, 300,000; Holland, 300,000; Spain 290,000; and Belgium, 280,000.

The United States Bureau of Standards was conducting experiments in the production of levulose sugar, particularly in adapting sugar house factories to turning out this product. The production of maple sugar in the ten leading States was reported at 34,750,000 pounds measured as sugar, of which about 3,250,000 pounds was in the form of sugar and the remainder in 3,990,000 gallons of syrup. See CHEMISTRY, INDUSTRIAL.

**SULPHUR.** The production of sulphur in 1926 in the United States amounted to 1,890,057 long tons, compared with 1,409,262 long tons in 1925, an increase of 34 per cent, according to the U. S. Bureau of Mines. The salient feature of the sulphur industry in 1926 was the record-breaking shipments, which totalled 2,072,687 tons, valued at approximately \$37,300,000, compared with 1,858,003 tons, valued at approximately \$29,000,000, in 1925, the previous record year. Production figures were second only to those of 1923 and, while still about 183,000 tons less than shipments, were closer than they had been since the closing down of the Sulphur mine, Louisiana, in 1924. Over 99.9 per cent of the production was made by two companies in Texas, which used the Frasch or hot water process, while over 99.9 per cent of the shipments was made by these companies and the company in Louisiana which was still shipping from stocks. The price for sulphur was considerably higher in 1926 than in 1925. *Chemical and Metallurgical Engineering* quoted a range of \$17 to \$19 a ton f. o. b. mines, the lower price holding for the first three months of the year and the higher price for the remainder.

Exports of sulphur or brimstone from the United States totalled 576,966 tons in 1926, valued at \$10,918,580. Exports of refined, sublimed, and flowers of sulphur totalled 12,002,105 pounds, valued at \$236,146, exported mainly to Canada, Mexico, France, and Australia. In 1925 the exports of sulphur or brimstone amounted to 629,401 tons and the exports of refined, sublimed, and flowers of sulphur

amounted to 6,381,791 pounds. The exports in 1926 were second only to the record exports of 1925.

In Sicily approximately 208,000 metric tons of sulphur were produced in 1926 and it was expected that the shipments would amount to between 260,000 and 270,000 tons, caused by the withdrawal of supplies from surface stocks, reducing the stocks of Sicilian sulphur to between 50,000 and 60,000 metric tons, or the lowest figure in the recent history of the local industry. It was rumored that Mussolini contemplated an extensive scheme of electrification to restore the industry and possibly place it in a position to compete with the United States. Chile, during 1926, had its normal production of from 5000 to 10,000 tons, while Japan was producing between 35,000 and 45,000 tons, the production practically balancing the consumption. The annual sulphur consumption of the world ranged from 2,000,000 to 2,500,000 tons.

**SUMATRA.** See DUTCH EAST INDIES.

**SUN.** See ASTRONOMY.

**SUNDAY SCHOOL UNION.** AMERICAN. A volunteer association composed of members of different denominations of the Protestant Church, whose object is to establish and maintain Sunday schools and to publish and circulate moral and religious publications. It was established in 1817 as the Sunday and Adult School Union. By the contributions of individuals, churches and Sunday schools, it sustains missionaries and supports its general work, which is carried on by 13 districts. In the year ending Feb. 28, 1926, there were 874 schools organized and 584 schools reorganized, with a total of 4738 teachers and 45,964 scholars. Sermons and addresses delivered by workers of the Union during the year numbered 22,927 and prayer meetings established numbered 317. There were 185 Young People's Societies formed; 214 preaching stations opened; 41 churches of various denominations organized; and 13 churches built. During 1926 the Union commissioned 223 missionaries, 34 of whom served only part of the year, and who, while exploring new territory or working in districts previously covered, visited 208,862 families in their homes and distributed 5281 Bibles, 8379 New Testaments, and 14,000 copies of the Gospel of John. Missionary work is carried on chiefly in rural districts and among the negroes of the South. The Union publishes and circulates books and supplies needed by the schools and homes which it serves, as well as carrying forward the interdenominational work of the general Sunday school movement. The total number of books, booklets, maps, charts, and other Sunday school requisites issued during the year was 292,481. Books given to Christian workers, theological students, and others, from special funds provided for the purpose, numbered 462. The Union circulated 12 Sunday school periodicals, weekly, monthly, or quarterly, for officers, teachers, and scholars, to the number of 2,013,740 copies. The largest of the publications is the *Sunday School World*. There were 505 enrolled in Teacher Training Classes during the year. Daily Vacation Bible Schools are held in rural communities. In 1926 there were 384 such schools meeting daily, usually for a period of two weeks, in 33 states, with an enrollment of 10,417, and an average daily attendance of 7792. The income for the year ending Feb. 28, 1926, was \$593,690.59 and

expenditures \$619,752.64. The officers in 1926 were: E. Clarence Miller, president; James M. Snyder and Robert L. Latimer, vice-presidents; William H. Hirst, recording secretary. National headquarters are at 1816 Chestnut Street, Philadelphia.

**SURGERY.** See MEDICINE AND SURGERY.

**SURINAM.** See DUTCH GUIANA.

**SVEČENSKI, LOUIS.** American violinist, died in New York, June 18. He was born at Esseg, Croatia, Nov. 6, 1862. After completing his studies at the University of Agram, he won a government scholarship and went to the Akademie der Musik at Vienna, where his teachers were J. Grün for violin and J. Hellmesberger for composition, 1881-5, while among his classmates were Franz Kneisel and Fritz Kreisler. He was brought to the attention of Wilhelm Gericke, conductor of the Boston Symphony Orchestra. Svečenski went to Boston in 1885 as one of the first violins of the orchestra, and remained until 1903. When Kneisel founded his famous quartet, in 1886, Svečenski became the viola player and held this position without interruption until the dissolution of the organization in 1917. In 1904 he joined the faculty of the Institute of Musical Art, in New York, retaining this post till his death. From 1924 on he also had charge of the class in chamber music at the Curtis Institute of Music in Philadelphia. He was the author of a pedagogical work, entitled *Twenty-five Technical Exercises for Viola*.

**SWARTHMORE COLLEGE.** A non-sectarian, coeducational college at Swarthmore, Pa.; founded in 1864 by the Society of Friends. The 1926 fall enrollment was 561. The faculty numbered 54. The endowment and productive funds amounted to \$3,500,000. The library contained 57,000 volumes. The honors courses, for which the General Education Board in 1925 had granted \$240,000 for a five-year period, continued to be developed. A gift for the erection of a building to house the Friends' Historical Library was made by Clement M. Biddle. Mrs. Isaac H. Clothier of Philadelphia gave \$100,000 in memory of her husband. President, Frank Aydelotte, LL.D.

**SWAZILAND, swā'ze-lānd.** A British protectorate in South Africa, situated north of Zululand, at the southeastern corner of the Transvaal; formerly under the South African Republic; controlled by the British government acting through a high commissioner of the Union of South Africa. Area, 6678 square miles; population at the census of 1921, 133,563, of whom 2200 were Europeans. Capital, Mbabane. The inhabitants are largely of the Zulu type. The chief agricultural products are: Corn (the staple product), tobacco, millet, various vegetables, peanuts, and cotton. Livestock in 1924 included 1000 horses, 250,000 cattle, 200,000 native sheep and goats, and 9500 pigs. About 350,000 sheep are brought into Swaziland from the Transvaal each year for winter grazing. Mineral resources are considered rich, but are undeveloped. The revenue for 1924-25 was £89,710 and the expenditure £87,597. As noted above, the territory is under the administration of the High Commissioner for South Africa, but the local administration is under a resident-commissioner; in 1926, D. Honey.

**SWEDEN.** A Scandinavian kingdom in the extreme northwestern part of Europe, occupying

the eastern and larger part of the Scandinavian peninsula. Capital, Stockholm.

**AREA AND POPULATION.** The total area of Sweden is 173,105 square miles; the population, according to the census of 1920, was 5,904,489; estimated, Dec. 31, 1924, 6,036,118. The population per square mile in 1924 was 34.8. The movement of population in the same year was: Births, 109,009; deaths, 71,991; marriages, 37,484; immigrants, 5942; emigrants, 10,671, of whom 7036 migrated to the United States. Cities with more than 100,000 inhabitants at the beginning of 1925 were Stockholm, 438,896; Göteborg, 229,638; and Malmö, 116,144.

**EDUCATION.** Primary instruction is free and compulsory between the ages of 7 and 14. In 1924 there were 26,297 teachers and 685,382 pupils in the public elementary schools. In the same year there were 77 public secondary schools with 29,722 pupils; 51 people's high schools with 3110 pupils; 2 high and 7 elementary technical schools with about 2800 pupils. There are two universities, Upsala, founded in 1477, and Lund, founded in 1668. The former had 2806 students, and the latter, 1773 students, in the fall of 1924. Besides, there are navigation schools, agricultural schools, veterinary schools, etc.

**PRODUCTION.** The value of all crops in 1925 was given at 1,242,000,000 crowns, an increase of 45,000,000 crowns over 1924. The following table from the *Statesman's Year Book* for 1926 shows the acreage and yield of the principal crops in 1925:

Crop	Acreage (hectares)	Produce (tons)
	1925	1925
Wheat	146,798	375,339
Rye	352,053	713,287
Barley	186,498	320,113
Oats	728,882	1,225,006
Mixed corn	265,584	546,077
Leguminous crops *	46,968	72,610
Potatoes	158,803	2,194,010
Roots *	135,987	4,713,772
Hay	1,684,723	5,221,051

\* Peas, beans, and vetches.

\* Sugar-beet and fodder-roots.

A census of livestock showed 728,000 horses, 2,736,000 head of cattle, 1,568,000 sheep and lambs; and 1,011,000 pigs.

The factory value of all raw, semi-finished, and finished materials produced within Sweden during 1924 aggregated 4,543,000,000 crowns, as compared with the 1923 figure of 4,163,000,000 crowns. Since the wholesale-price index, as computed by the Swedish Board of Trade, remained practically static during the two years 1924 (at 162) and 1923 (at 161), the 9 per cent increase in value denotes an equivalent increase in volume. Particularly noticeable was the gain in output of Swedish mines and metal industries, although it should be recalled that the iron and steel industries during 1923 were seriously hampered by labor conflicts. The production of iron ore increased from 5,600,000 metric tons in 1923 to 6,500,000 metric tons in 1924; of pig iron from 282,607 tons to 513,225 tons; cast iron and steel from 270,680 tons to 500,942 tons; and wrought and rolled iron and steel from 430,404 tons to 743,777 tons. There was also a significant rise in output value of the electrical, machinery, and engineering industries, from 96,000,000 crowns to 133,100,000 crowns. In lumber production, little change was

noticeable, but in the wood-pulp and paper industries a substantial increase was recorded. The dry weight of mechanical and chemical wood-pulp rose from the 1923 figure of 1,400,000 metric tons to 1,700,000 metric tons for 1924, and paper from 392,619 to 457,258 metric tons. In the chemical industry a general expansion occurred during 1924. Artificial fertilizers increased by 24,000 metric tons, to a total of 250,216 metric tons. The production of matches increased by slightly more than 1000 metric tons, to 34,245 metric tons, a figure still considerably below the pre-war output. Increases were also made in the cases of fats and oils, varnishes and paints, and explosives.

COMMERCE. By the development of its industries during the past quarter century Sweden has acquired an important rôle in world trade. This prominence, however, is gauged not so much by actual figures as by the quasi-monopolistic character of several of its chief export items. Intensive utilization of domestic resources has been the keynote for trade development, since Sweden possesses no colonies or dependencies to supply it with raw materials or to afford exclusive markets. Reliance must therefore be placed upon native resources, supplemented by imported raw materials, in order to insure prosperity and maintain and advance the country's position as a trading nation.

Four prime factors contribute to the prominence enjoyed by Sweden as a trading nation: Large natural resources (timber, minerals, electric power, and fertile soil); highly developed and diversified industries; a high standard of living supported by large purchasing power; and efficient engineering talent with abundant skilled and unskilled labor. For its basic industries, such as saw-mills, wood-pulp and paper manufacture, mining, iron and steel production, engineering, and the making of matches, there are available within the country practically all the necessary raw materials. Coal alone forms an exception, the domestic deposits being limited; but this handicap was being overcome by the gradual electrification of industry, made possible by development of the vast supply of hydroelectric water power.

Swedish imports and exports had increased steadily since 1923. In 1924 the volume of both imports and exports had almost equaled pre-war dimensions. In 1925, with the heavy gains in exports and imports, it was safe to suppose, pre-war volume was eclipsed. The development during post-war years, as compared with 1913, is shown in the following table:

POST-WAR VALUES OF SWEDISH IMPORTS AND EXPORTS  
[In Swedish paper crowns \*]

Year	Imports	Exports	Import surplus
1913.....	846,537,568	817,347,039	29,190,529
1919.....	2,533,977,225	1,575,686,838	958,290,382
1920.....	3,314,111,861	2,278,295,098	1,035,816,268
1921.....	1,258,719,045	1,097,270,686	161,448,409
1922.....	1,114,162,449	1,153,710,755	<sup>b</sup> 39,548,306
1923.....	1,294,527,587	1,142,095,263	152,432,324
1924.....	1,424,490,413	1,260,953,598	163,536,820
1925.....	1,486,051,000	1,357,093,000	78,958,000

\* Average exchange rate of the crown for years stated was: 1913, 26.8 cents; 1919, 25.56 cents; 1920, 20.50 cents; 1921, 22.56 cents; 1922, 26.18 cents; 1923, 26.57 cents; 1924, 26.54 cents; and 1925, 26.85 cents.

<sup>b</sup> Export surplus.

Germany still retained the leading position as a source of Swedish imports, followed by

Great Britain and the United States, the last-named furnishing about 16 per cent. Great Britain was by far the largest market for Swedish exports, taking a little more than 20 per cent of the total; the United States was second with about 12 per cent; and Germany was third, with about 10 per cent of the total. American participation in Swedish trade was much larger than in pre-war years. Swedish exports to Soviet Russia in 1924 exceeded the pre-war figure in value.

DISTRIBUTION OF SWEDISH TRADE BY  
PRINCIPAL COUNTRIES  
[In Swedish paper crowns]

Country	Imports	Exports
Germany .....	352,790,000	133,230,000
Great Britain and Ireland .	307,690,000	363,390,000
United States .....	227,290,000	152,810,000
Denmark .....	120,890,000	82,880,000
Holland .....	56,590,000	47,850,000
France .....	44,780,000	92,650,000
Norway .....	38,080,000	54,900,000
Russia .....	4,950,000	43,800,000
Argentina .....	46,550,000	16,660,000

FINANCE. The Swedish budget proposed for 1926-27 showed a balance that was to be attained (even though reductions in the tax rate were proposed) through increases in revenue from state enterprises and in profits from the Riksbank, as well as through draft on cash reserves accumulated in the treasury from past years, and through anticipated loans. There was a tendency towards more extensive assessment of income and property on a progressive scale. The outstanding feature of the 1926-27 budget was a proposed reduction in the rate of taxation on incomes, and reductions in the customs duties on coffee and sugar.

SUMMARY OF SWEDISH BUDGETS  
[In Swedish crowns, gold]

Classification	1925-26 (estimated)	1926-27 (proposed)
<b>Expenditures (ordinary and extraordinary)</b>		
Expenditures proper (current):		
Administrative (ministries, etc.) .....	533,843,100	544,030,600
Unforeseen .....	1,703,622	1,000,047
Cost of Riksdag, audit, etc.	4,254,000	4,263,000
Interest on national debt, etc. ....	82,001,200	84,552,500
Increase of capital (non-recurrent) .....	107,016,778	104,308,153
<b>Total .....</b>	<b>728,818,700</b>	<b>739,154,300</b>
<b>Revenues</b>		
Income proper (current) .	508,318,188	513,878,500
Income from productive funds (non-recurrent) .....	106,342,300	110,162,000
Share in profits of Bank of Sweden .....	15,500,000	16,000,000
Capital assets employed ...	48,052,212	58,996,645
Loans .....	50,606,000	41,117,155
<b>Total .....</b>	<b>728,818,700</b>	<b>739,154,300</b>

On Jan. 1, 1926, the total amount of the funded debt was 1,733,598,000 crowns.

COMMUNICATIONS. On Jan. 1, 1925, the Swedish merchant marine consisted of 2630 vessels, of 1,342,389 gross tons, of which 1304, of 1,217,922 tons, were steam and motor vessels. The vessels entered in 1924 numbered 26,530, of 12,238,646 tons; cleared, 26,632, of 12,330,455 tons. At the end of 1924 the total length of

railways in Sweden was 15,710 kilometers, of which 5836 kilometers belonged to the state.

**GOVERNMENT.** Executive power is vested in the King, who acts through a responsible ministry known as the Council of State, at the head of which is the minister of state or premier; legislative power is in a diet of two chambers, of which the upper has 150 members elected by the legislature of each province; the lower chamber consists of 230 members elected for four years by universal suffrage (including woman suffrage). Women entitled to vote have the right to run for election. The King in 1926 was Gustaf V, born June 16, 1858, who ascended to the throne on the death of his father, Oscar II, Dec. 8, 1907. For the make-up of the lower chamber as a result of the elections of 1924 see preceding YEAR BOOK. The Socialist ministry during 1926 was composed as follows: Premier, Richard Sandler; foreign affairs, Osten Unden; justice, T. Nothin; defense, P. A. Hansson; social affairs, G. Müller; communications, V. Larsson; finance, E. Wigforss; education and ecclesiastical affairs, O. Olsson; agriculture, S. Linders; commerce, C. E. Svensson; ministers without portfolio, K. Levinson and K. J. D. Schlyter.

**HISTORY.** The year was a comparatively quiet one in Sweden. Considerable advancement was made along the lines of arbitration by the negotiation of treaties with Norway, Denmark, Finland, Poland, and Czecho-Slovakia. An interesting event of the year was the visit of Crown Prince Gustavus Adolphus and Crown Princess Louise to the United States. In the last month of the year, Prince William also sailed for the United States, for a lecture tour.

In May, the Social-Democratic government fell, the unemployment issue being the cause. The Popular Party then formed a cabinet, with the following men: Prime Minister and minister of finance, C. G. Ekman; foreign affairs, Erich Loeftgren; justice, J. C. W. Thyren; defense, Senator Rosen; social affairs, Jacob Petterson; communications, M. Zeurling; education, Senator Almkvist; agriculture, Senator Hellstrom; commerce, Feliz Ilamrin. Theoretically, the new government was for Prohibition, although it seemed that it did not have sufficient inherent strength to have such a measure passed. The new prime minister was considered the strongest man in Sweden after the death of Hjalmar Branting (see preceding YEAR BOOK). The new government was welcomed on all sides, with the exception of the Social-Democratic Party and some of the Socialists.

**SWEDENBORGIANS.** See NEW JERUSALEM, CHURCH OF THE.

**SWEDENBORGITE.** See CHEMISTRY, under *Mineralogical Chemistry*.

**SWEDISH LITERATURE.** See SCANDINAVIAN LITERATURE.

**SWEET POTATO WEEVIL.** See ENTOMOLOGY, ECONOMIC.

**SWIMMING.** The swimming of the English Channel by two American naiads was the sensational achievement of the year 1926 in this branch of sport. The first woman to negotiate successfully these treacherous waters was Miss Gertrude Ederle, whose time was 14 hours, 31 minutes. Mrs. Clemington Corson followed, her time being 15 hours, 28 minutes. Miss Ederle's feat was the more notable from the fact that she cut man's best time for the Channel swim

by two hours, although her performance was excelled later in the year. Other long-distance aquatic deeds of note during 1926 were the swimming of the Catalina Island Channel by Walter G. Taber in 13 hours, 27 minutes; the circling of Manhattan Island by Mrs. Lottie Schoemmel and the 14-mile swim from Yonkers to the Battery, New York City, by Phyllis and Bernice Zitenfeld, thirteen-year-old twins, in 6½ hours.

More than 150 new records were established in 1926 in the American Amateur Athletic Union and college and school events throughout the United States, women swimmers accounting for nearly half. Eleven new world marks, which will undoubtedly receive the sanction of the International Amateur Swimming Federation, were set. Chief among these are two performances of Arne Borg, of Sweden, who swam 880 yards in 10 minutes, 38¾ seconds, and 1 mile in 21 minutes, 49¾ seconds. Eric Rademacher, of Germany, established a new world's time of 5 minutes 50¾ seconds for 400 meters, and W. D. Kealoha, of Honolulu, swam 100 meters in 1 minute, 11¾ seconds. Ethel Lackie and Martha Norelius, both of the United States, accounted for seven more world records between them.

The United States national senior outdoor championships for men returned the following winners: 100 meters, John Weissmuller, Illinois A. C., 59¾ seconds; 440 yards, Weissmuller, 5 minutes, 21¾ seconds; 880 yards, Arne Borg, Illinois A. C., 10 minutes, 38¾ seconds; 1 mile, Borg, 21 minutes, 49¾ seconds; high diving, Peter Desjardines, Miami, Fla.; long distance, Clarence A. Ross, New York A. C.

The winners in the senior outdoor women's championship were: 100 meters, Ethel Lackie, Illinois A. C., 1 minute, 14¾ seconds; 440 yards, Martha Norelius, Women's Swimming Association, New York, 6 minutes, 6 seconds; 880 yards, Martha Norelius, 12 minutes, 47 seconds; mile, Ethel McGary, W. S. A., New York; high diving, Esther Foley, W. S. A., of New York.

In collegiate water sports, the swimmers of the United States Naval Academy won at the intercollegiate championships, but Yale's team, which was unable to compete in this fixture, later defeated the midshipmen in a dual meet, in which several new world college records were established.

**SWINE.** See LIVESTOCK.

**SWITZERLAND.** A federated republic of western Europe, comprising within its limits the highest of the Alps and the Jura Mountains. Capital, Berne.

**AREA AND POPULATION.** The area of Switzerland is 15,940 square miles; population, according to the census of 1920, 3,880,320; estimated Dec. 1, 1924, 3,917,800. In 1924 the estimated population of the principal cities was as follows: Zurich, 204,570; Basle, 136,580; Geneva, 127,720; Berne, 105,070. The movement of population in 1924 was: Births, 75,566; deaths, 50,861; marriages, 28,510; emigrants, 4140. Linguistic differences constitute the most important distinction among the various Swiss types. German is the language of 70.9 per cent of the people, French of 21.2 per cent, Italian of 6.2 per cent, and Romansch of 1.1 per cent. Dialects of the various languages are numerous.

**EDUCATION.** The following are the statistics for the various classes of educational institutions for 1923-24: Primary schools, 4412, with

16,896 teachers and 509,762 pupils; secondary schools, 529, with 27,264 boys and 24,920 girls, and 1805 men and 523 women teachers; lower middle schools, 85, with 7242 boys and 4083 girls, and 546 men and 55 women teachers. For special education there are various commercial, technical, agricultural, and other schools. The seven universities of Switzerland, organized on the same plan as the German universities, are given in the accompanying table from the *Statesman's Year Book* for 1926, with the number of students by faculties for 1924-25 and the number of teachers in 1924:

	Theology	Law	Medicine	Philosophy and science	Total	Teaching staff 1924
Basle (1460) . . . . .	64	120	341	592	1,117	154
Zurich (1882) . . . . .	54	572	579	526	1,731	173
Bern (1834) . . . . .	49	516	404	466	1,435	187
Geneva (1559 <sup>a</sup> and 1873 <sup>b</sup> ) . . . . .	27	272	288	269	856	151
Lausanne (1537 <sup>a</sup> and 1890 <sup>b</sup> ) . . . . .	21	190	148	382	741	139
Fribourg (1869) . . . . .	224	136	...	197	557	67
Neuchâtel (1868 <sup>a</sup> and 1909 <sup>b</sup> ) . . . . .	11	77	...	98	186	57

<sup>a</sup> As an academy.

<sup>b</sup> As a university

PRODUCTION. Of the total area, 2,317,243 acres are unproductive; of the productive area, 2,315,482 acres are forest, 3,025,000 acres under grass, and 2,000,000 acres pasturage. The principal crops are wheat, rye, oats, and potatoes. The chief agricultural industries are the making of cheese and condensed milk. Wine is produced in eight of the cantons and tobacco in three. For the estimates of the production of the principal agricultural crops in 1926 see Table of Production by Countries in article AGRICULTURE. The forest area belongs chiefly to the municipalities and is under Federal forest laws.

The following table gives the latest available statistics concerning Swiss industries:

NUMBER OF FACTORIES AND EMPLOYEES IN CHIEF SWISS INDUSTRIES AT END OF 1924

Industries	Factories	Workers
Cotton manufacture . . . . .	843	35,833
Silk manufacture . . . . .	194	28,904
Wool manufacture . . . . .	71	6,964
Linen manufacture . . . . .	29	1,483
Embroidery manufacture . . . . .	880	15,329
Other textile industries . . . . .	153	6,085
Clothing industry . . . . .	884	35,363
Foodstuffs industry . . . . .	621	25,141
Chemicals industry . . . . .	230	12,942
Paper, leather, and rubber manufactures . . . . .	293	12,285
Woodworking . . . . .	501	26,031
Machinery, apparatus, and instrument industries . . . . .	720	61,205
Watchmaking . . . . .	1,099	41,207

COMMERCE. According to the United States Bureau of Foreign and Domestic Commerce. Swiss imports in 1925 were valued at 2,634,158,000 francs (including 159,032,000 francs of unminted precious metals), and exports amounted to 2,038,743,000 francs (including 19,272,000 francs of unminted precious metals). Omitting the trade in precious metals, which was mainly non-commercial, exports were 27,553,000 francs higher and imports 3,685,000 francs higher than in 1924, with a consequent reduction of 23,868,000 francs in the adverse trade balance.

Very few differences appear in the main

groups of Swiss trade, as between 1925 and the previous year.

SWISS FOREIGN TRADE IN 1925  
[In thousand francs\*]

Commodity group	Imports 1925	Exports 1925
Foodstuffs and beverages . . . . .	694,055	192,772
Animals, animal products, and fertilisers . . . . .	73,484	15,929
Hides and skins . . . . .	62,859	68,372
Seeds, plants, etc. . . . .	67,337	1,898
Wood . . . . .	60,196	9,971
Paper stock and pulp; paper and manufactures . . . . .	88,566	28,786
Textile materials and products; and rubber . . . . .	700,679	867,149
Mineral materials . . . . .	156,215	21,943
Clay, grit and pottery . . . . .	16,626	1,229
Glass . . . . .	17,817	1,209
Metals . . . . .	352,868	149,643
Machinery and vehicles . . . . .	148,079	192,546
Watches, clocks and parts; instruments and apparatus . . . . .	84,599	347,534
Chemicals, dyes and industrial oils . . . . .	177,456	180,996
Miscellaneous . . . . .	21,641	8,888
Tobacco . . . . .	17,730	5,883
Total . . . . .	2,634,157	2,038,743

\* The Swiss franc exchanged in 1924 at an average value of \$0.1822; in 1925, at par, or \$0.1933.

FINANCE. Swiss revenues and disbursements during 1925 varied only slightly from the estimates for the year. Ordinary receipts amounted to 298,814,000 francs, a gain of 10,154,000 francs over estimates, while expenditures amounted to 307,974,000 francs, an increase of 2,287,000 over the budget forecast. The resultant deficit was reduced, therefore, to 9,160,000 francs, as against an estimate of 17,027,000 francs. For the year 1926 the ordinary budget still showed a deficit; but this, it was expected, would be more than counterbalanced by an anticipated surplus in the extraordinary budget as a result of heavy yields from extraordinary taxes.

SWISS ORDINARY BUDGETS OF RECENT YEARS  
[In thousand francs]

Classification	1924 (actual)	1925 (estimated)	1926 (proposed)
<b>Expenditures</b>			
Interest . . . . .	120,005	117,000	110,500
Salaries . . . . .	50,775	52,129	52,157
Real estate . . . . .	10,484	6,747	5,885
Subventions . . . . .	52,034	55,000	58,800
National defense . . . . .	59,515	63,700	66,298
Special funds . . . . .	2,316	2,300	2,860
Agriculture . . . . .	1,377	1,480	1,460
Various expenses . . . . .	7,966	7,331	7,020
Total . . . . .	304,472	305,687	299,480
<b>Revenues</b>			
Capital and real estate . . . . .	24,423	27,549	26,462
Customs (omitting tobacco and gasoline) . . . . .	183,475	189,555	194,158
Tobacco . . . . .	15,089	14,000	17,500
Gasoline . . . . .	6,549	8,000	10,000
Stamp taxes . . . . .	31,226	31,486	32,056
Military taxes . . . . .	4,502	4,200	4,200
Excess receipts:			
Post office . . . . .	3,973	3,582	3,750
Ammunition . . . . .	91	83	84
Previous deductions . . . . .	1,008	1,008	1,008
Other receipts . . . . .	12,529	9,197	8,632
Total . . . . .	282,865	288,660	297,850
Deficit . . . . .	21,607	17,027	1,630

RAILWAYS. Revenues for Swiss railways were less in 1925 than in 1924, declining chiefly because of less freight traffic and the retirement

of steam locomotives following electrification. Despite the adverse factors, however, the railroads were able to balance their accounts for the third time since the War, showing a credit balance of 1,480,000 francs and reducing a deficit incurred during the War to 190,500,000 francs. Approximately 100,800,000 passengers, or 5,300,000 more than in 1924, were carried by the Swiss railways in 1925. The increase in passenger traffic was laid to increased tourist travel. Receipts from this source were about 140,000,000 francs, 7,000,000 more than in 1924 and the highest figure attained in 20 years. Freight revenue, however, diminished by 26,000,000 francs, as compared with 1924, due largely to a reduction in rates, to less long-haul traffic from north to south and from east to west, and to the increased use of motor trucks.

The electrification of its Federal railways is a factor that has contributed largely to the development of the hydraulic resources of Switzerland. During the War it was difficult for the country to secure coal enough at reasonable prices to keep its industries running. In order to gain freedom from this foreign dependence for fuel, a programme for the utilization of hydraulic resources was drawn up, which included the electrification of all the principal lines of the Federal railway system. To furnish power for this purpose, large hydroelectric plants were built at Ritom, Amsteg, Goeschenen, Barberine, and Massaboden. While the construction of these plants was going on, the Federal railways were equipping their most important lines for electric traction. The total length of the electrified lines in 1919 was only 107 kilometers. By the end of 1926 the total length exceeded 1000 kilometers of long lines, on which 250 electric locomotives operated regularly. When the above mentioned programme has been fully realized—in 1929, according to present plans—the length of electrified lines will exceed 1500 kilometers.

**GOVERNMENT.** Both executive and legislative power are vested in a parliament of two chambers; namely, the Council of State and the National Council; the first having 44 members elected by the 22 cantons, two for each canton; the second has 198 members elected directly by the people. The two chambers united form the Federal Assembly, which is the supreme organ of government and delegates the chief executive authority to the Federal Council, whose seven members are elected for three years. The seven members of the Federal Council act as ministers for the departments of government. The chief magistrate is the president of the Confederation, and is elected by the Federal Assembly for one year. President of the Confederation in 1926, Henri Haeblerlin; Vice-President of the Federal Council, Giuseppe Motta.

In the last month of the year the legislature elected Dr. Giuseppe Motta, president, and Edmund Schulthess, vice-president of the republic, for the year 1927. Dr. Motta served as president in 1915 and again in 1920. During 1926 he was vice-president. M. Schulthess was president in 1917, and during 1926 he was the chief of the department of public economy.

**SYMPHONY CONCERTS.** See MUSIC.

**SYRACUSE UNIVERSITY.** A non-sectarian, coeducational institution of the higher education at Syracuse, N. Y.; founded in 1870. The 1926 fall enrollment was 5358, and the

summer session had a registration of 1373. The faculty numbered about 550. The productive funds of the institution amounted to \$2,745,406, and the income for the year to \$1,352,000. The library contained 150,876 volumes and over 60,000 pamphlets. Chancellor, Charles Wesley Flint, M.A., D.D., Paed.D., LL.D.

**SYRIA.** Traditionally, the region lying between the Syrian desert and the Euphrates River, on the east, and the Mediterranean on the west; and between the Taurus Mountains in the north, and Egypt on the south; formerly a province of the Turkish Empire; in 1920 recognized as an independent state under a mandatory power, the mandate being bestowed upon France. Syria, under the mandate, is bounded by the Mediterranean on the west, by Palestine on the south, by Mesopotamia on the east, and by Turkey on the north. Since Jan. 1, 1925, the country comprises four territories, Syria, Alaouite, Great Lebanon, and Jebel Druze. The total area of the mandated region has been placed at 60,000 square miles, and the population at less than 3,000,000. Arabic is the prevailing language, the great majority of the inhabitants being of Arabic stock, and, in religion, Sunnite Mohammedan. The chief towns are Damascus, 170,000; Aleppo, 140,000; Beirut, 80,000; Homs, 60,000; and Hama, 35,000. There are about 500 French schools, with 50,000 pupils. Various educational schools are maintained by the Greek Catholics, the Maronites, the British missionary societies, and Roman Catholic agencies. There is an American university at Beirut, with 934 students in 1923-24.

**PRODUCTION.** Syria is essentially an agricultural country, and under the mandatory government efforts have been made to encourage the adoption of improved agricultural methods. Although the cultivable area of the country is estimated at about 12,500,000 acres, only about one-fifth of that total was actually under cultivation in 1926. Cereals, vegetables, and fruits are the leading crops, and some tobacco, cotton, and hemp also are produced. The wheat crop in 1925 was estimated at its average size of approximately 1,000,000 tons, and the barley and durra crops at about one-fourth or one-third the size of the wheat crop. In spite of the large acreage planted, the total cereal yield is still insufficient for the needs of the country. Considerable acreage is devoted to vineyards. The greater part of the crop is used for wine or alcohol, but additional quantities of alcohol are imported from Europe. Lemons, bananas, and oranges ordinarily constitute very profitable crops in Syria, but during the past two years the fruit trees have been attacked by pests, and many of the groves have been damaged, and the quality of the fruit has deteriorated in certain districts. For many years, silk culture has been very important in Syria, particularly in the Lebanon, where the majority of the mulberry trees are located. The yield of cocoons in 1924 was estimated at 6,118,000 pounds. Sheep raising is widespread throughout the country. Industries are little developed. The mineral resources, which are practically undeveloped, include iron, lignite, petroleum, phosphates, lead, copper, antimony, nickel, chrome, and marble.

**COMMERCE.** In spite of the disturbed conditions in the Damascus area during the last quarter of 1925 (see the preceding YEAR BOOK),

Syrian total trade for the year showed a noticeable increase, exports being 25 per cent greater than in 1924 and imports 11 per cent greater. It is evident that the year 1925 would have shown quite remarkable commercial and economic progress if the insurrection at the end of the year had not interrupted the important reexport trade across the Damascus region. The leading commodities entering into the import, export, and reexport trade of Syria, as given in that country's official statistics, are shown in the accompanying table:

SYRIA'S FOREIGN TRADE  
[In thousand Syrian pounds \*]

Article Imports	1924	1925
Cotton and cotton goods . . . . .	10,681	12,187
Cereals and cereal products . . . . .	3,380	7,407
Colonial products . . . . .	3,276	3,885
Industrial oils . . . . .	2,929	2,951
Wool and wool goods . . . . .	1,651	2,868
Silk and silk goods . . . . .	1,474	1,934
Iron . . . . .	1,653	1,704
Glass, porcelain, etc. . . . .	1,123	1,551
Fruits and vegetables . . . . .	1,010	1,421
Living animals . . . . .	1,854	1,087
All others . . . . .	11,401	12,198
Total . . . . .	39,832	48,693
Equivalent in thousands of dollars . . . . .	41,704	46,404
Article Exports and reexports	1924	1925
Cotton and cotton goods . . . . .	4,370	5,245
Raw wool . . . . .	1,525	2,784
Living animals . . . . .	1,615	2,378
Raw silk . . . . .	1,369	1,500
Silk-mixture textiles . . . . .	764	1,077
Butter . . . . .	521	686
Clothing . . . . .	230	613
Silk cocoons . . . . .	604	591
Dried skins . . . . .	158	555
Fruits, vegetables and nuts . . . . .	1,058	527
All others . . . . .	4,783	6,975
Total . . . . .	16,997	22,981
Equivalent in thousands of dollars . . . . .	17,796	21,853

\* The Syrian pound exchanged in 1924 at \$1.047; in 1925 at \$0.953.

**FINANCE.** The revenue for 1924 was 10,606,279 Syrian pounds, and the expenditure was 7,458,155 Syrian pounds.

**COMMUNICATIONS.** The following railways were open in 1925: From Beirut to Damascus, 91 miles; Rayak to Aleppo, 206 miles; Homs to Tripoli, 64 miles; Beirut to Mameltein, 11 miles; and Damascus to El Hammé, 120 miles.

**HISTORY.** At the beginning of the year the situation in Syria was still very serious, and the impression seemed to prevail that the appointment of High Commissioner Jouvenel in place of General Sarrail would not go very far toward solving the difficulties. On January 3, Jouvenel issued a proclamation to the Druses requesting them to lay down their arms and meet the French government around the conference table to settle the points of friction. The Druses a few weeks later presented a note from Sultan Atrash requesting a peace conference. Not wishing to give the tribes the status of a belligerent, Jouvenel refused the request until the Druses should lay down their arms. In the meantime, desultory fighting continued, and railway communication between Damascus and Beirut was continually interrupted. Early in March, the Druse assembly made a series of demands on the French which practically asked for complete independence and the withdrawal of the French from the country. This was met

by Jouvenel with the statement that further negotiation was impossible, and the only terms on which he would discuss the situation with the natives would be those of unconditional surrender. His policy was followed up in April by a military movement in force against the Druses. This aimed at disarming all soldiers or driving them into Palestine or the desert. The city of Damascus suffered from another bombardment May 7, and business came to a virtual standstill, because the outskirts of the city were held by the natives and the city proper by the French. The Syrians fought a regular guerilla warfare, attacking small French bands, disorganizing communications, and always evading a frontal attack. Generally speaking, the French were able to hold the cities, but were incapable of making any headway in the rural districts. Many observers stated that it would take 100,000 French troops and a large sum of money to bring about pacification, and then it would only exist as long as the army was in control. The reports of the military operations in Syria were very difficult to interpret, those from French sources speaking of glowing victories, while those of the Syrians concerning the same engagement told almost an opposite story. The French censorship was so strict that impartial or hostile news had no opportunity to reach the outside world.

Early in October, Jouvenel was succeeded in the position of High Commissioner by Auguste Henri Bonsot, who announced that he had made a thorough study of Syrian conditions and that he was open to any reasonable proposal for settlement of the difficulties. His arrival was followed by a lull in the military operations, apparently because the Druses wished to hear his point of view concerning the affairs of the mandate. Shortly afterwards he opened negotiations with the Druse chiefs, but nothing was accomplished by the close of the year. See LEAGUE OF NATIONS.

**TACNA-ARICA ARBITRATION.** See ARBITRATION, INTERNATIONAL.

**TAHITI.** See OCEANIA, FRENCH ESTABLISHMENTS IN.

**TAIWAN,** t'í-wán'. Official Japanese name for Formosa (q.v.).

**TALC AND SOAPSTONE.** The mining and preparation of talc and soapstone in 1926 were of about the same volume as in 1925, when 5684 short tons of the crude material, valued at \$24,533, were produced, with sawed and manufactured talc to the amount of 895 short tons, valued at \$107,691, and ground material to the amount of 175,677 short tons, valued at \$1,879,569; making a grand total of 182,256 short tons, valued at \$2,011,793. The principal producing states were Vermont and New York, the latter supplying a fibrous talc whiter in color and bringing a higher price than the Vermont material. California produces the finer grades of talc, and also some block talc. Soapstone is sawed into slabs and manufactured into laundry tubs, laboratory table tops, and other products, as well as being used in rough blocks or the crude state. In Europe, the principal producers were the French mines, which in 1926 were said to have combined with Italian mines in increased exports to the United States. The imports of talc, steatite, and French chalk in 1926 totaled 48,692,369 pounds, valued at \$563,799, as against 41,980,365 pounds, valued at \$449,338, in 1925.



**TANGANYIKA** (tân'gân-yê'ká) **TERRITORY.** A territory under British mandate, comprising the portion of German East Africa assigned to Great Britain after the conquest of the country by British and Belgian soldiers during the World War. Area, about 365,000 square miles; native population (mainly of mixed Bantu race), according to the census of 1921, 4,107,000. The Europeans numbered 2447; Asiatics, 14,991, of whom about two-thirds were Indians. Capital, Dar-es-Salaam, with a population of 25,000. The capital and Tanga are the chief seaports. In 1924 there were 73 government schools, 1576 Roman Catholic schools, and 1026 Protestant schools, with a total roll exceeding 167,634 pupils.

The total area under forest is approximately 2,700,000 acres, of which 2,170,000 acres are included in the government forest reserves. Ebony, gum copal, and wild rubber are found. The chief agricultural products are cereals, manioc, peas and beans, groundnuts, oil products, sweet potatoes and other vegetables, fruits (chiefly bananas), and coffee. Sisal and cotton production are also important industries. The output of cotton in 1924-25 was estimated at 6,800,000 pounds. A livestock census taken in 1924 showed 3,808,284 cattle and 3,943,618 sheep and goats. The principal minerals found are coal, gold, mica, graphite, iron and copper ores, cobalt, and nickel. The total imports in 1924 were valued at £2,062,546; exports, £2,695,284; transit trade £603,094. The principal imports consisted of cotton piece goods, foodstuffs, building materials, iron and steel manufactures, machinery, kerosene and gasoline, cigarettes, and liquors. The principal exports were sisal, cotton, groundnuts, coffee, hides and skins, copra, grain, sisimim, beeswax, ghee, and chilies. The revenues in 1925 amounted to £1,558,982 and the expenditures to £1,747,578. In 1924, 399 steamers (exclusive of coastal boats) of 1,487,836 tons, and 3716 dhows of 69,800 tons, entered and cleared from the various coast ports from places beyond the territory. The railways include the Tanga line of 219 miles; Central Railway, 772 miles; and the Voi-Kahe railway, 92 miles. The last named railway has been taken over by the Kenya government.

The head of the administration is a governor, who is aided by a nominated executive council. Governor in 1926, Sir D. C. Cameron.

**TANNING MATERIALS.** See **CHEMISTRY, INDUSTRIAL.**

**TANTALUM.** See **CHEMISTRY, INDUSTRIAL.**

**TARDIVEAU, RENÉ.** See **BOYLESVE, RENÉ.**

**TASMANIA.** A state of the Australian Commonwealth, consisting of the island of that name and several small islands. Area, including the island of Macquarie (170 square miles), 26,215 square miles; population, according to the census of 1921, 213,780; estimated in 1925, 214,336. The movement of population in 1924 was: Births, 5383; deaths, 2123; marriages, 1529. Capital, Hobart, with a population including suburbs (Mar. 31, 1925), of 55,600. The population of Launceston, including suburbs, on the same date was 27,320.

The agricultural produce in 1923-24 was: Wheat, 305,620 bushels; oats, 1,350,785 bushels; peas, 474,621 bushels; potatoes, 99,996 tons; hay, 144,298 tons; fruits, 2,418,830 bushels; and hops, 2,293,000 pounds. The value of agricultural and pastoral products was £5,628,040;

mining products, £1,325,958, and manufactures, £4,019,989. The chief minerals in order of value were copper, tin, lead, silver, zinc, coal, gold, and osmiridium. The two chief sources of manufactured exports are fruit-preserving and metal extraction. The imports in 1924-25 were valued at £8,814,460; exports, £8,848,173. The principal exports are wool, minerals, timber, fruit, grain, potatoes, hops, bark, and hides and skins. The total registered shipping amounted to 185 vessels, of 16,761 tons. On June 30, 1924, Tasmania had 673 miles of railway open to traffic. The Tasmanian Railways again showed a deficit during the year ended June 30, 1926. For this period the revenue was £542,190, compared with £545,255 for the previous year, a decline of £3065. The poor showing of the railroads is attributed to motor competition, and it has been suggested that busses be prohibited from carrying passengers on roads parallel to railways.

The administration is under a governor, who acts through a responsible ministry, and the legislative power is vested in a parliament of two houses: namely, the Legislative Council of 18 members, elected on the basis of property qualification, and the House of Assembly of 30 members, elected for three years by universal suffrage, including women, and with proportional representation. Governor in 1926, Sir James O'Grady; prime minister, treasurer, and minister for mines, J. A. Lyons.

**TAXATION.** In the United States the Revenue Bill, which was the result of the efforts of the Conference Committee of the Senate and the House of Representatives, passed both houses by large votes early in the year, and was signed by President Coolidge February 26. This bill aimed to reduce the taxpayers' burden and to secure simplification of taxation. The law as passed reduced the inheritance taxes, decreasing the maximum from 40 to 20 per cent, allowed a credit of 80 per cent on inheritance taxes paid to a State, raising the credit from the 25 per cent of the former act. The exemption of estates from the Federal tax was increased from \$50,000 to \$100,000, and a further cut was made by the application of the lower rates of the Revenue Act of 1921 in place of the higher rates of the Act of 1924. In the income tax schedules, the surtax rate on incomes between \$26,000 and \$100,000 was reduced, and the personal exemption of single persons was raised from \$1000 to \$1500 and of married persons from \$2500 to \$3500. The normal tax rates were reduced from 2 to 1½ per cent on the first \$4000 of taxable income, from 4 per cent to 3 per cent on the next \$4000, and from 6 per cent to 5 per cent on the remainder. The corporation tax was increased from 12½ per cent to 13 per cent for the year 1927, and 13½ per cent thereafter. The tax on admissions and dues was retained, with the ticket exemption raised from 50 to 75 cents. The tax on passenger automobiles, with the rate reduced from 5 per cent to 3 per cent, was kept, but the tax on automobile trucks was removed. The gift tax enacted in 1924, and which imposed the estate tax rates on gifts among the living, was repealed. The law abolished a considerable number of miscellaneous excise or occupation taxes, including those on automobile tires and parts, jewelry, cameras, ammunition and firearms, billiard and pool tables, and other means of amusement, and stamp taxes on deeds and other legal documents. The only new tax in the



act was one of one-tenth of a cent per gallon on beverages made from cereals.

During the fiscal year 1926 the United States Internal Revenue Bureau collected taxes aggregating \$2,835,999,892.19, as compared with \$2,584,140,286.24 in 1925, or an increase of \$251,859,823.95, or 9.7 per cent. Income and profit taxes supplied the greater part of the revenues collected by the Government. The income tax collections for the fiscal year amounted to \$1,974,104,141.33, as compared with similar collections in the fiscal year 1925 amounting to \$1,761,659,049.51, an increase of \$212,445,091.82, or 12.1 per cent. The collections for the fiscal year 1926 included payments of the third and fourth installments of the tax due on incomes in the calendar year 1924, together with additional collections made for the prior year amounting to \$844,649,733.47, as compared with \$780,804,647.05 representing payments of income tax for the corresponding period of the fiscal year 1925, an increase of \$64,045,086.42, or 8.2 per cent. During the last six months of the fiscal year 1926 the first and second installments of the taxes due on incomes in the calendar year 1925 were collected, together with additional collections on assessments made for prior years amounting to \$1,129,454,407.86, compared with \$981,054,402.46 for the corresponding period of the fiscal year 1925, or an increase of 15.1 per cent. The tax on the returns of net income of individuals and corporations filed for the year 1924 was at the rates provided for in the revenue act of that year, while the tax on the returns of net incomes filed for the year 1925 was at the rates provided in the revenue act of 1926.

Under miscellaneous taxes collected by the Internal Revenue Bureau, the principal increase was on tobacco manufactures, amounting to \$25,419,227.91, although substantial reductions were made in the rate of tax on all classes of cigars, which, however, did not become effective until Mar. 29, 1926. The collections on passenger automobiles and motorcycles, on which the tax was reduced from 5 to 3 per cent in the revenue act of 1926, also showed an increase for 1926 amounting to \$18,990,978.14. Decreases for 1926 were shown in the collections from all other excise taxes which were repealed by the revenue act of 1926, effective February 26 of that year.

The Office of Internal Revenue reported that the income tax collections for the calendar year 1926 amounted to \$2,172,127,321, as compared with \$1,825,704,135 for the calendar year 1925. Of the 1926 collections, \$1,256,793,285 was from corporations and \$915,334,035 from individuals. Of the 1925 collections, \$956,268,218 was from corporations and \$869,435,917 was from individuals. New York was first in the amount of collections in 1926, the total amounting to \$618,415,054, of which \$276,299,217 was from corporations and \$342,115,836 from individuals. Pennsylvania ranked second with a total of \$213,418,954, of which \$130,040,325 was from corporations and \$83,378,629 from individuals. Illinois was third with income tax collections in 1926 amounting to \$192,101,247, of which \$114,267,679 was from corporations and \$77,833,567 from individuals. Florida, with total collections amounting to \$46,678,668, showed a notable increase over 1925, when the total was \$16,803,149. Of the 1926 Florida collections, \$17,679,748 was from corporations and \$28,998,920 from

individuals. The collections for Maryland, which included the District of Columbia, in 1926 totaled \$44,548,154, of which \$25,339,377 was from corporations and \$19,208,777 from individuals.

An important tax reform that was making progress was in connection with taxing estates of non-residents. By 1926, as the result of recent legislation, New York, Pennsylvania, Connecticut, and Massachusetts had enacted reciprocity statutes providing that the respective states would not tax the estates of residents of other states on intangible personal property if such other states did not tax its residents' estates. In the spring of 1926 the State of New Jersey repealed its tax on the intangible personal property of non-residents. In this connection it was stated that the States of Alabama, Nevada, and Florida had no inheritance tax at all, while the States of Georgia, Rhode Island Tennessee, and Vermont had not attempted to impose a tax on intangible personal property of non-residents. In other words, 12, or one-fourth, of the States of the Union in 1926 did not tax the residents of the other States on intangible personal property passing at death.

**TELEGRAPHY.** Telegraph engineering, on both land and submarine cable circuits, furnished notable developments in greater efficiency of service and faster transmission. A cable connecting New York and London that would allow a rate of transmission eight times as fast as any in use between those points was laid during the year. The main feature of this cable was its wrapping or loading with permalloy, an alloy of iron and nickel of high magnetic permeability. It was laid between Bay Roberts, Newfoundland, and Penzance, England, and had a capacity of 2500 letters per minute. During the year, All America Cables, Inc., laid 788 miles of cable and was preparing to lay a third cable from Cuba to the Canal Zone and from Callao, Peru to Valparaiso, Chile. Upon completion of work under way at the close of the year, this company would have 31,800 miles of cable in operation, including three duplexed cables between New York and Buenos Aires.

The Western Union Telegraph Company reported that it had, at the beginning of the year, 213,763 miles of pole lines; 1,603,760 miles of wire, of which 56 per cent was of copper; 3176 miles of land line cables; 25,476 nautical miles of ocean cables; 24,428 telegraph offices, and that it employed about 63,000 persons.

**TELEPHONY.** The great industrial activity and its consequent expansion of office and residence demand that characterized the year resulted in all telephone facilities being heavily taxed to supply the necessary service. The American Telephone & Telegraph Co. reported that at the close of 1926 there were more than 17,600,000 interconnected stations of the Bell System; and of these about 2,000,000 were machine switching stations. In order to provide the facilities that were indicated as needed in the immediate future, the American Telephone & Telegraph Co., in June, increased its capital stock by approximately \$154,000,000. New central offices, buildings for housing the executive and business departments of so extensive a utility and the construction of new wire and cable lines were some of the undertakings requiring the outlay of almost \$400,000,000 during the year.

By the end of 1926, there had been more than

1800 miles of toll cable added to the Bell System. The New York-Chicago long distance cable was extended to St. Louis, a distance of 344 miles. This new cable cost \$7,000,000 and was more than two years in construction. It provided about 250 telephone channels and several hundred telegraph channels and contained circuits for short-haul toll traffic as well as through circuits connecting St. Louis with Chicago, New York, Boston and Washington. The longest circuits of the network were 1500 miles in length, but tests demonstrated that longer circuits of conductors similar to this could be operated satisfactorily.

Approximately 65,000 miles of carrier current channels were added to the Bell System during the year, for both telephone and telegraph; and tests of the carrier current principle for relatively short toll circuits were being conducted. The carrier current principle was applied also to submarine cables 26 miles long between Catalina Island and the California mainland. In addition to the normal voice frequency channel, six carrier current channels were superimposed on a single cable. Carrier frequencies ranged up to about 26,000 cycles.

It was announced that a direct telephone line between New York City and Mexico City would be opened early in 1927, the American Telephone and Telegraph and the International Telephone and Telegraph Companies coöperating to furnish the service. The length of the line would be almost 3000 miles, running from New York to Laredo, Texas, thence across the Rio Grande to Nueva Laredo in Tamaulipas, from which point it would reach Mexico City via Tampico.

In Europe, the Compañía Nacional de España completed at the close of the year a telephone system that connected stations 3800 kilometers apart. This was the longest European circuit in use and in addition to lines in Spain, it crossed the Strait of Gibraltar by cable to points in Africa.

**TEMPLE UNIVERSITY.** An institution of higher learning at Philadelphia, Pa.; founded in 1884. The 1926 fall term enrollment was 7774, distributed as follows: Liberal arts and sciences, 613; teachers college, 2669; elementary school, 97; commerce, 2283; theology, 26; law, 387; medicine, 215; pharmacy, 265; dentistry, 481; music, 176; chiropody, 26; university high school, 461; training school for nurses, 75. The summer school registration for 1926 was 952. There were 528 members on the faculty. The income for the year was \$1,042,574. Ground was secured during the year for a new Medical School building, and plans drawn for a greater University. The library contained 37,019 volumes. The vacancy occasioned by the death of President Conwell in 1925 was filled by the election of Charles E. Beury, LL.D.

**TENNESSEE. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,337,885. The estimated population on July 1, 1926, was 2,468,000. The capital is Nashville.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	3,099,000	85,222,000	\$56,247,000
	1925	3,162,000	83,240,000	56,284,000

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	1,178,000	475,000 <sup>a</sup>	
	1925		517,276 <sup>a</sup>	
Hay, tame	1926	1,297,000	1,684,000 <sup>b</sup>	27,124,000
	1925	1,162,000	1,069,000 <sup>b</sup>	23,518,000
Tobacco	1926	187,000	106,997,000 <sup>c</sup>	10,058,000
	1925	180,000	94,380,000 <sup>c</sup>	16,045,000
Potatoes	1926	35,000	2,780,000	4,286,000
	1925	37,000	2,072,000	4,040,000
Sweet potatoes	1926	45,000	5,535,000	3,874,000
	1925	36,000	3,240,000	4,536,000
Wheat, winter	1926	394,000	7,092,000	9,645,000
	1925	367,000	4,588,000	7,616,000
Oats	1926	287,000	7,175,000	3,946,000
	1925	221,000	4,862,000	3,112,000

<sup>a</sup> bales, <sup>b</sup> tons, <sup>c</sup> pounds.

**MINERAL PRODUCTION.** Coal, the State's leading mineral in point of value of annual product, rose in production to 5,736,146 short tons in 1925 from 4,556,555 short tons in 1924; and to a value of \$10,585,000 in 1925, from \$9,711,000 in 1924. Cement was the second mineral product in order of value in 1924, followed by clay products and stone. The clay products of 1924 had a total value of \$4,933,152; those of 1923, \$4,879,848. Stone production was 1,437,280 short tons in 1924 and 1,454,180 short tons in 1923; in value, \$3,867,072 in 1924 and in 1923, \$4,341,393. There were shipped in 1925 from the mines of the State 164,073 long tons of iron ore, and in 1924, 179,293 long tons; in value, \$369,144 in 1925 and in 1924, \$431,682. Pig iron production declined to 95,186 long tons in 1925 from 126,660 long tons in 1924; and to a value of \$2,014,176 in 1925 from \$2,782,154 in 1924. Copper production increased in 1925, the State's smelter output being 19,789,234 pounds in 1925 and 18,251,996 pounds in 1924. Copper production was valued in 1924 at \$2,401,968. Phosphate rock was produced to the quantity of 388,697 long tons in 1924 and 415,711 long tons in 1923; and to the value of \$1,976,188 in 1924 and in 1923, \$2,255,040. Lime, ferro-alloys, and sand and gravel were produced in important quantities. The total value of the State's mineral products, duplications excluded, was in 1924, \$35,354,525; in 1923, \$41,553,780.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$13,037,609. Their rate per capita was \$5.39, as against \$4.70 in 1924 and \$2.60 in 1917. Their total included \$3,319,322 for education, apportioned among the minor State divisions. Payments amounting to \$804,913 for interest on debt, and \$9,621,750 for permanent improvements, added to the payments for maintenance and operation of State departments, made the total of State payments \$23,464,272. For highways was expended the sum of \$11,601,454, of which \$3,102,521, representing a material increase, was for maintenance, and \$8,498,933 was for construction.

Revenue receipts of the State were \$21,663,740, or \$8.96 per capita. They exceeded by \$7,821,227 the total payments except those for permanent improvements, and were \$1,800,523 less than the total with these included. Payments in excess of revenue were met from the proceeds of debt obligations. Property and special taxes formed 27.4 per cent of the revenue in 1925, as against 35.1 per cent in 1924 and 49 per cent in 1917. Their per capita rate was \$2.46 in 1925, \$2.73 in 1924 and \$1.38 in 1917. Earnings of the departments and compensation

for officials' services furnished 11.4 per cent of the 1925 revenue; business and non-business licenses, 38.8 per cent. License revenue included that from taxes on incorporated companies, on sales of gasoline and on motor vehicles. The net indebtedness of the State on June 30, 1925, was \$17,077,176, or \$7.07 per capita, as against a per capita rate of \$7.19 in 1924 and \$6.96 in 1917. The assessed valuation of property subject to State tax was \$1,661,478,404. The State tax levy was \$4,984,435, or \$2.06 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4063, the trackage of switching and terminal companies excepted. No new construction and no abandonments of line were reported in 1926.

**EDUCATION.** Under the law of 1925, affording State aid to enable all elementary schools to keep open for 8 months each year, 77 out of 95 counties ran their elementary schools for the approximate 8-month period in the school year 1925-26. P. L. Harned, State commissioner of education, as quoted in the *Journal of the National Education Association*, expressed his belief that in the ensuing school year all counties would thus operate. Sixty per cent of the teachers of the State took summer courses in approved institutions, in order to improve themselves. The average annual term of service for teachers was lengthened from 132 to 147 days. For the school year ending June 30, 1926, the total enrollment was 653,876; that in elementary schools, 603,252; and that in high schools, 50,624. Daily attendance in elementary schools averaged 411,653; in high schools, 41,576. Expenditures were: For county elementary schools, \$8,724,155; for county high schools, \$2,915,946; for city schools, \$8,241,325. Salaries averaged, for county elementary teachers, \$564; for county high school teachers, \$1152; for city teachers, \$1122.

**CHARITIES AND CORRECTIONS.** Chief among the State charitable and correctional institutions in 1926 were two State prisons, a girls' vocational school, three hospitals for the insane, schools for the deaf and dumb and a Home for Confederate Veterans.

**POLITICAL AND OTHER EVENTS.** At the election November 2, Governor Austin Peay, Democratic candidate, was reelected for the two-year term beginning January, 1927. He defeated Walter White, Republican candidate, noted as former prosecutor in the Scopes case. Two Republicans and 8 Democrats were elected to seats in the United States House of Representatives. The vote cast was exceptionally light in proportion to registration. John F. Nolan was elected State treasurer by the legislature, and L. D. Smith was elected attorney-general.

A conference on the development of Southern university education was held at Nashville, February 1, by editors from various parts of the South. Counsel for John Thomas Scopes, convicted in 1925 at Dayton, Tenn., of violation of the State act against teaching evolution, offered arguments on appeal with the Supreme Court of the State in January. The court did not make final disposal of the Scopes case during the year. To deal with the excess of cotton brought on the market by the heavy 1926 crop, there met at Memphis in October an All-South Cotton conference, which appointed a permanent committee to effect coöperative withdrawal from the market of 4,000,000 bales, and

to effect reduction in cotton acreage in 1927 to 75 per cent of the 1926 total, through bankers' influence on the planters.

**OFFICERS.** Governor, Austin Peay; Treasurer, Hill McAlister; Comptroller, Edgar Graham; Secretary of State, Ernest Haston; Auditor, O. S. Shannon; Attorney-General, Frank M. Thompson; Commissioner of Education, P. L. Harned.

**JUDICIARY.** Supreme Court: Grafton Green, Chief Justice; Associate Justices, A. W. Chambliss, Colin P. McKinney, Frank P. Hall, William L. Cook.

**TENNESSEE, UNIVERSITY OF.** A non-sectarian, coeducational institution of higher education at Knoxville, Tenn., with colleges of medicine and dentistry and a school of pharmacy at Memphis; founded in 1794. The autumn enrollment for 1926 was 2303, and 1159 were registered in the 1926 summer school. There were 308 members in the faculty. The land grant amounted to \$400,000, and the income for the year 1925-6 to \$2,212,841.54. The library contained 78,556 volumes. New buildings erected during the year were: anatomy laboratory building at Memphis, costing, with equipment, \$319,000; home economics laboratory, costing \$214,000, with equipment; practice house for the department of home economics, at a cost of \$16,000; two experiment stations, one insectary and the other an addition to the dairy cottage of the Middle Tennessee Experiment Station, costing \$1062 and \$870.69, respectively. President, Harcourt A. Morgan, LL.D.

**TENNIS.** The 1926 lawn tennis season was crowded with sensational happenings, the chief among them being the overthrow of William T. Tilden, 2d, as United States national singles champion, by René Lacoste, of France, after a reign of six years. Other noteworthy events were the surprising comeback staged by Mrs. Molla Mallory in winning the United States women's title, the thrilling match won by Mlle. Suzanne Lenglen of France from Miss Helen Wills of the United States on the Riviera, and, finally, the desertion of the amateur ranks by Mlle. Lenglen, Miss Mary K. Browne, and Vincent Richards, Howard Kinsey, Harvey Snodgrass, and Paul Feret of France, who played in the United States.

The United States successfully defended the Davis Cup, emblematic of the world's team championship, defeating France in the challenge round, played at Philadelphia, 4 matches to 1. The scores of the various matches follow:

W. M. Johnston (U. S.) defeated René Lacoste (France), 6-0, 6-4, 0-6, 6-0; W. T. Tilden, 2d. (U. S.) defeated Jean Borotra (France), 6-2, 6-3, 6-3; W. M. Johnston defeated Jean Borotra, 8-6, 6-4, 8-6; René Lacoste defeated W. T. Tilden, 2d., 4-6, 6-4, 8-6, 8-6; R. Norris Williams and Vincent Richards (U. S.), defeated Henri Cochet and Jacques Brugnon (France) 6-4, 6-4, 6-2.

Twenty-four nations took part in the Davis Cup contests, nineteen in the European zone and five in the American zone. France won the European final round, and Japan won the American final. France then defeated Japan in the interzone final, 3 matches to 2, the scores being as follows:

Cochet (France) defeated S. Tawara (Japan), 1-6, 4-6, 7-5, 6-3, 6-2; T. Harada (Japan), defeated Lacoste (France), 6-4, 4-6, 6-3, 9-7;

Lacoste defeated Tawara, 6-1, 6-3, 6-2; Harada defeated Cochet, 6-1, 6-3, 6-4; Brugnon and Cochet defeated Tawara and Harada, 6-0, 6-2.

The Wightman Cup matches, played at Wimbledon, England, resulted in a victory for the United States women's team by a score of 4 to 3. The results follow: Miss Elizabeth Ryan (U. S.), defeated Miss Joan Fry (England), 6-1, 6-3; Mrs. L. A. Godfree (England), defeated Miss Mary K. Browne (U. S.), 6-1, 7-5; Miss Fry defeated Miss Browne, 3-6, 6-0, 6-4; Mrs. Godfree defeated Miss Ryan, 6-1, 5-7, 6-4; Mrs. Marion Jessup (U. S.), defeated Mrs. Shepherd-Barron (England), 6-1, 5-7, 6-4; Mrs. Jessup and Miss Eleanor Goss (U. S.), defeated Mrs. Chambers and Mrs. Barron (England), 6-4, 6-2; Miss Browne and Miss Ryan defeated Mrs. Godfree and Miss Collyer, 3-6, 6-2, 6-4.

The holders of the various United States championship titles at the close of 1926 were: Singles, René Lacoste; doubles, R. Norris Williams and Vincent Richards; women's singles, Mrs. Molla Mallory; doubles, Miss Elizabeth Ryan and Miss Eleanor Goss; clay court singles, William T. Tilden, 2d; doubles, L. N. White and L. L. Thalheimer; indoor singles, René Lacoste; indoor doubles, Tilden and Fred C. Anderson; intercollegiate singles, Edward G. Chandler; University of California; doubles, Chandler and Thomas Stow, University of California. The career of Miss Helen Wills, former woman champion of the United States, was interrupted by illness.

The Wimbledon men's singles was won by Jean Borotra of France and the doubles by Henri Cochet and Jacques Brugnon of France. The Wimbledon women's singles were captured by Mrs. L. A. Godfree of England and the doubles by Miss Elizabeth Ryan and Miss Mary K. Browne of the United States.

**TEXAS. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 4,663,228. The estimated population on July 1, 1926, was 5,313,000. The capital is Austin.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Cotton	1926	18,363,000	5,900,000	
	1925		4,165,374	
Corn	1926	3,844,000	106,868,000	\$64,118,000
	1925	2,957,000	25,134,000	27,647,000
Wheat, winter	1926	1,802,000	82,798,000	39,355,000
	1925	819,000	6,552,000	10,156,000
Grain sorghums	1926	1,788,000	48,278,000	26,552,000
	1925	1,625,000	30,875,000	23,465,000
Hay, tame	1926	891,000	1,240,000	14,880,000
	1925	804,000	748,000	14,081,000
Potatoes	1926	30,000	2,100,000	3,885,000
	1925	26,000	1,378,000	3,307,000
Sweet potatoes	1926	92,000	8,556,000	8,128,000
	1925	84,000	6,132,000	8,707,000
Oats	1926	1,964,000	83,666,000	81,793,000
	1925	1,091,000	18,419,000	8,454,000
Rice	1926	166,000	6,142,000	6,756,000
	1925	168,000	6,216,000	9,262,000
Barley	1926	220,000	7,700,000	4,081,000
	1925	116,000	835,000	752,000

\* tons.

**MINERAL PRODUCTION.** One of the leaders in the production of petroleum, the State derives from this source much the largest part of its yearly mineral production, in point of value. Production of the State rose to 142,618,000 bar-

rels in 1925, from 134,522,000 barrels in 1924; and to a value of \$262,000,000 (estimated) in 1925, from \$203,870,000 for 1924. Natural gas was produced to the amount of 107,247,000 M cubic feet in 1924 and 74,535,000 M cubic feet in 1923; and to a total value of \$13,748,000 in 1924 and in 1923, \$11,320,000. Gasoline produced from natural gas totaled 184,700,000 gallons in 1925 and 186,571,000 gallons in 1924; in value, \$20,650,000 (estimated) in 1925 and in 1924, \$14,460,000. Cement production was 4,806,000 barrels in 1925 and in 1924, 4,565,983 barrels. Cement shipments attained a value of \$9,440,000 in 1925 and \$8,322,658 in 1924. Clay products totaled \$5,469,908 in 1924, as against \$5,572,665 in 1923. Asphalt derived from oil yielded 240,903 short tons in 1924 and 243,179 short tons in 1923; having a value for 1924 of \$4,127,663 and for 1923 of \$3,781,552. Stone, sand and gravel, gypsum, and coal were produced in important quantities. The total value of the State's mineral product in 1924, duplications excluded, was \$272,729,023; in 1923, \$260,450,913.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending Aug. 31, 1925, were \$55,165,298. Their rate per capita was \$10.88, as against \$7.92 in 1924 and \$4.59 in 1917. Their total included \$23,187,766 for education, apportioned among the minor State divisions. Payments amounting to \$220,051 for interest on debt and \$13,960,603 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of the year's payments \$69,345,952. For highways was expended the sum of \$20,979,760, of which \$10,040,879 was for maintenance and \$10,938,881 for construction. The State assumed in 1925 the entire expense of current highway maintenance, and granted larger apportionments for education.

Revenue receipts of the State were \$64,675,016, or \$12.75 per capita. They exceeded by \$9,289,667 the total payments except those for permanent improvements, and were \$4,670,936 less than the total with these included. Property and special taxes formed 42.5 per cent of the revenue in 1925, as against 44 per cent in 1924 and 56.6 per cent in 1917. Their rate per capita was \$5.42 in 1925, \$5.37 in 1924 and \$3.10 in 1917. Earnings of the departments and compensation for officials' services furnished 5.2 per cent of the revenue in 1925; business and non-business licenses, 33.7 per cent. License revenue was derived chiefly through taxes on incorporated companies, on sales of gasoline and on motor vehicles. The net indebtedness of the State on Aug. 31, 1925, was \$4,412,566, or 87 cents per capita, as against 90 cents in 1924 and \$1.07 in 1917. The assessed valuation of property subject to State tax was \$3,602,217,082. The State tax levy was \$27,737,071, or \$5.47 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 16,198. Switching and terminal companies operated 225 miles of tracks. There was constructed, in 1926, 242 miles of first track, the highest total in the year for any State. Of this total the Southern Pacific built 96 miles south of San Antonio, near the Mexican border; the Missouri Pacific, in the same area, 50 miles;

the Atehison 31 miles, in the Panhandle region; the Rock Island, 37 miles north from Amarillo to form a portion of a new line from Amarillo to Liberal, Kan. There were abandoned 11 miles between Waco and Ross, by the Southern Pacific, and the Nacogdoches and Northeastern abandoned and took up 14 miles between La Cerda and Pershing.

**EDUCATION.** There was created and set to functioning an Education Commission of Texas. It was described in the *Journal of the National Education Association* as "a sort of supreme court to pass judgment on the wisdom and feasibility of propositions relative to education which should be submitted to it," and was maintained by the State teachers' association. The special session of the thirty-ninth legislature appropriated from general revenue \$3,500,000 to supplement the school fund, so as to bring the per capita rate to \$14. An amendment to the State constitution gave to county boards the power, previously exercised by the legislature, to create independent districts. The school population of the State in 1926 was placed at 1,348,646. Enrollment in the public schools in the academic year 1925-1926 was 1,210,127, that in the common schools being 1,015,951 and in the high schools 194,176. Expenditures for public education in the year previous, 1924-1925 (the latest figures available), amounted to \$62,180,335. The average salary for all teachers in the schools in 1925-1926 was \$943.

**CHARITIES AND CORRECTIONS.** The State Board of Control, composed of three appointed members serving non-coinciding 6-year terms, held in 1926 financial and partial executive control over 17 State institutions. These were the Austin state hospital, Texas school for the deaf, Texas school for the blind, Confederate home, Confederate women's home, deaf, dumb and blind institute (colored), and Austin state school, all at Austin; the San Antonio, Terrell, Rusk, Abilene and Wichita Falls State hospitals; State juvenile training school, at Gatesville; the State orphan home, at Corsicana; the Girls' training school, at Gainesville; the State tuberculosis sanatorium, at Carlsbad; the home for dependent and neglected children, at Waco. The State prison system was independent of the Board of Control.

**POLITICAL AND OTHER EVENTS.** In the election, November 2, Dan Moody, Democratic candidate for Governor, was elected, defeating H. H. Haines, the Republican nominee, in a light vote. The entire Democratic State ticket was elected, as were likewise 17 Democratic members of the United States House of Representatives and one Republican.

The height of the Governorship campaign was reached in the primary elections earlier in the year. Attorney-General Moody, the leading opponent of the Ferguson régime, received the leading vote in the Democratic primary of July 24, his vote being given as 411,390 to 281,938 for Governor Miriam A. Ferguson. As four other candidates received a considerable aggregate vote, Moody lacked 1770 votes of the required clear majority. A run-off primary was accordingly held August 28, in which the vote for Moody increased to 458,669, while that for Governor Ferguson declined to the reported total of 240,597. In September there convened a special session of the State legislature, called to validate highway bonds. It had been de-

manded for months by the opponents of the Governor, desiring to investigate her administration. The lower house by a vote of 104 to 22 called, September 16, for an investigation of the Ferguson administration, with more special reference to its conduct in the matters of highway financing, the purchase of school text books and the taxation of oil and sulphur.

Texas legislation imposing assessments for meeting expenses of highway building was declared unconstitutional by a decision of the United States Supreme Court rendered January 4. The State's boundary dispute with Oklahoma over an area north of the Red River was placed before the United States Supreme Court, which ordered a new survey. The Texas Bankers' Association meeting at Dallas adopted, October 27, a plan to create a \$5,000,000 corporation for the purpose of retaining for 18 months a total of 1,250,000 bales of cotton raised in Texas, and then in the hands of growers pressed for cash. The size of the Texas crop rendered necessary a \$5,000,000 corporation, as against \$1,000,000 corporations set up in several other States. The Texas Cotton Finance Corporation was created along these lines, and J. A. Pondrom, president of the City National Bank of Dallas, was made its president, December 7. The State Bar Association, through a committee, recommended for enactment by the legislature an extensive reform of court procedure designed to expedite the disposal of lawsuits.

Governor Ferguson in the closing period of her term issued pardons in great number to persons under prison sentence. According to a news dispatch, December 27, she had issued over 3000 clemency proclamations during her administration. On the disputed question of the validity of highway bonds the State supreme court declared in some respects favorably, by a ruling in December. In this ruling the validity of county bonds of Tom Green County was affirmed, on the ground that these bonds had been validated by the legislature.

**OFFICERS.** Governor, Miriam A. Ferguson; Lieutenant-Governor, Barry Miller; Secretary of State (appointive); Treasurer, W. Gregory Hatcher; Comptroller, S. H. Terrell; Attorney-General, Dan Moody.

**JUDICIARY.** Supreme Court: Chief Justice, C. M. Cuerton; Associate Justices: T. B. Greenwood, William Pierson.

**TEXAS, UNIVERSITY OF.** A State institution of higher education at Austin, Texas, with a medical branch at Galveston and a college of mines at El Paso; founded in 1881. For the autumn of 1926 the enrollment totaled 5162, and for the summer session, 2972. There were 405 members of the faculty, an increase of 41 over 1925. The endowment resources of the institution, including land, land notes, bonds, and cash, amounted to \$11,108,300, and the income from legislative appropriation, fees, and income from endowment was estimated at \$2,584,800. The number of volumes in the library was 355,523. President, Walter Marshall William Splawn, Ph.D.

**TEXTILE INDUSTRY.** The textile industry in 1926, in the general results secured, was on about the same basis as in the previous year, and especially as regards volume of production. During 1926 there was a considerable decline in the value of textile materials, cotton showing a continued fall, which was followed by silk and

wool. Cotton consumption by American mills increased about 4 per cent in 1926 and the number of cotton spindles active about 1 per cent, but there was a decrease of 4 per cent in the consumption of wool, and a decline in the activity of woollen spindles, though worsted spindles were more active. While silk deliveries (see SILK) were on practically the same basis as in the previous year, the number of spindles active had declined nearly 10 per cent. With increased activity in cotton manufacturing there was a decline in the margin of profits, though wool manufacturing showed improved conditions, especially in the late summer. The textile industry in New England continued to be the subject of considerable discussion, in view of the removal of manufacturers to the South and their preference for building new mills in that region. The securities of New England mills continued to decline, while those of Southern cotton mills maintained a fairly firm position. In wool manufacturing the earnings were greater than in the previous year, and the stocks recovered somewhat from the decline.

The total value of textiles exported from the United States in 1926 was \$1,010,277,054, or considerably less than in 1925, when a total of \$1,278,370,472 was reached. Of this total, manufactures of cotton amounted to \$112,005,367 in 1926, as against \$126,027,065 in 1925. The total value of the exports of wool manufactures in 1926 was \$3,954,187, as against \$4,931,858 in 1925, and of the manufactures of silk \$17,788,377 in 1926 as against \$18,181,846 in 1925. Exports of manufactures of artificial silk (rayon) amounted to \$7,880,704 in 1926, as against \$8,700,543 in 1925. Exports of miscellaneous textile products had a total of \$20,078,286 in 1926, as against \$20,433,265 in 1925.

The imports of cotton manufactures during 1926 in the main were less than in 1925. Thus the total value of cotton manufactures imported was \$60,697,159, as compared with \$70,227,818 in the previous year. Manufactures of wool imported in 1926 amounted to \$59,194,465, as compared with \$55,483,557. Manufactures of silk imported had a total value of \$40,569,818 in 1926, as against \$36,719,080 in 1925. Artificial silk and manufactures imported in 1926 were valued at \$13,898,990, as against \$13,118,307 in 1925.

**NEW MILL CONSTRUCTION.** During 1926, 178 new textile mills were built, according to the annual record of the *Textile World* (New York). This was the lowest number since 1897, and was even below the previous low mark of 186 new mills in 1924. During the year, the whole or part of the equipment of various Northern plants was transferred to the South, in continuance of a policy that had been followed for a year or two previously, and there were in process of construction or in course of planning a number of large projects in Alabama, Arkansas, Georgia, Kentucky, Louisiana, North Carolina, South Carolina, Tennessee, Texas, and Virginia. An important tendency of the year was the merging of large companies in the cotton, knit goods, and silk industries, so that one enlarged mill would contain the consolidated equipment and lower manufacturing costs would ensue. In California, a silk weaving mill which had been operated for some years added new looms, dyeing and finishing equipment, and was also developing in the spinning and hosiery knitting fields so as to

cure the advantage of favorable location to the supplies of raw silk landed on the Pacific Coast. As distinct from expansion in the actual spindleage and loomage in the United States, which was conspicuous by its absence, there was a general policy of improving equipment and reorganizing plants, so as to secure increased economies along with diversification of product, which policy, it was believed, would be advantageous in the immediate future.

In the South, 21 new cotton mills were added during the year, 7 of which were in North Carolina, 5 in Georgia, 2 in Alabama, and 2 in South Carolina, while 1 mill was added in each of the following: Arkansas, Kentucky, Louisiana, Tennessee, and Virginia. In North Carolina there were additions to plant or equipment of 38 existing mills, and after that State came South Carolina with 23, Georgia with 16, Alabama with 14, and Texas with 9 projects for increase or expansion. Dealing with special installations, the 50,000-spindle addition to the mill of the Cannon Manufacturing Co. at Kannapolis, N. C., and the construction of a new power plant at that place, was a notable event, while at Thomaston, Ga., there was built the Martha Mills for making tire fabric, with 30,000 spindles. A new unit at the China Grove, N. C., Cotton Mills Co. plant was built to house 30,000 spindles. Equipment from Passaic, N. J., Philadelphia, Pa., and Lowell, Mass., was transferred to various Southern plants, the Appleton Manufacturing Co., for example, continuing the moving of 30,000 spindles from Lowell, Mass., to Anderson, S. C.

In the North, 10 new mills were established, including two plush mills, a webbing and braiding plant, a damask drapery mill, a thread mill, a winding plant, a towel mill, a twine mill, and a tape mill, and 18 cotton mills in Pennsylvania enlarged their plants and 10 in Rhode Island increased their facilities.

During the year 9 new woollen mills were established in California, Maine, Massachusetts, New Jersey, New York, Pennsylvania, and Rhode Island, of which the most important was the Ohio Carpet Co.'s plant at West Warren, Mass.

Fifty-two new knitting mills were built during the year, a decline of 32 from the total of 84 in 1925. Possibly the most interesting was a new silk hosiery mill at Hermosa Beach, Cal. In Pennsylvania 23 new mills were built.

In the silk industry 37 new mills were started, of which the plant of the Old Colony Silk Mill Corporation, with 12,000 spindles and 144 looms, in New Bedford, Mass., was notable.

For manufacturing rayon (q.v.) there were a large number of new projects put under way by the established companies working in this field, including those of the American Cellulose and Chemical Manufacturing Co. at Amcelle, Md.; the Belamose Corporation at Rocky Hill, Conn.; the Du Pont Rayon Co. at Buffalo, N. Y., and Old Hickory, Tenn.; the Viscose Co. at Lewiston, Pa.; Roanoke, Va., and Parkersburg, W. Va. At Bemberg, near Johnson City, Tenn., the American Bemberg Corporation completed its plant, and at Clifton, N. J., Cupra, Inc., started the first unit of its plant. At New Castle, Del., the Delaware Rayon Co. was formed, and acquired a plant in which machinery was being installed.

The miscellaneous new mills of the year totaled 38, divided as follows: Twenty-four dyeing, bleaching, and finishing plants; 3 braid

	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917
Cotton .....	34	40	39	74	57	46	89	74	29	52
Wool .....	9	17	15	38	34	36	30	54	24	24
Knitting .....	52	84	57	78	94	103	59	84	120	97
Silk .....	37	38	22	26	24	31	71	61	49	86
Rayon .....	8	11	..	..	..	..	..	..	..	..
Miscellaneous .....	38	49	53	21	29	26	15	16	27	38
Total .....	178	239	186	232	238	242	264	289	254	297

linen mill, an asbestos yarn and cloth mill; a wadding plant; an insulating yarn mill; a jute yarn mill; a hooked rug plant; and a converting and backwinding plant.

The new mill construction in the United States in the ten years 1917-1926 is given in the table above.

**THEATRE.** The year in the theatre in the United States was uneven in its manifestations. General prosperity was reflected in the continuance of demands for entertaining performance on the part of the public and an almost incredible number of bids for popular favor by optimistic producers. During the year about 260 plays were staged in the Broadway theatres of New York alone. The number of financial successes is, to a degree, calculable. In the so-called legitimate field, about 20 per cent of the offerings made money for their producers. In the musical comedy world, where initial expenses are larger, the percentage of successes was larger, but here it was no more than 50 per cent. Some idea of the practical problems that face the promoter of new types of plays and new ideas in the theatre may be gained from these figures. They account for the conservative attitude of the managers and indicate, too, the possible service of the "little theatres." The number of thoroughly satisfactory plays, judged by standards other than those of the box-office, is arguable, but a symposium of opinions would not put the figure much higher. And certainly the two lists would not contain exactly the same names. But there were a half dozen plays of merit sufficiently vigorous to demand attention at any time, and there are a dozen others that deserve some notice as they pass to the storeroom and library. Comparison of the products of the American year with those of the foreign stage in the same period does not indicate anything of greater importance in Europe.

The first of January, 1926, found a half dozen successes moving calmly along the paths of mid-season prosperity. *Abie's Irish Rose* must head that list. Others that had, and were continuing, a success were *Is Zat So*, *Cradle Snatchers*, *The Green Hat*, *Craig's Wife*, *Young Woodley*, and *The Last of Mrs. Cheyney*. Most of these were mentioned in brief review in the article **THEATRE** in the 1925 **YEAR BOOK**. *The Last of Mrs. Cheyney*, another Frederick Lonsdale comedy of bright lines and smart manner, had a cast that included Ina Claire, Roland Young and A. E. Matthews. It gave the familiar Lonsdale picture of English society and is to be noted, as suggested, not for its rather absurd although amusing story, but for its delightful banter and civilized conversation. The advent of naturalism and dialect in the American theatre has emphasized the painful paucity of decent English or even inoffensive American on the stage. It is not the business of the theatre to teach good language, or anything else, but when the opportunity exists for the making of a great national impression it seems unfortunate to have to reflect that the Great American Playwright, when

and if he comes, may write the language of New York's Ninth Avenue.

The splendid exception—or at least one of the splendid exceptions—to the general tenor of the time here was Walter Hampden. His season was interesting and, on the whole, probably successful. The early part of the year saw him continuing in Shakespearian revival. After *Hamlet* came *The Merchant of Venice*, with Ethel Barrymore as *Portia*. This was followed by a successful (as always) revival of *Cyrano de Bergerac*, this time with Edith Barrett as *Roxane*. Still later, in the spring, he played his old rôle in a revival of *The Servant in the House*. In the fall Mr. Hampden tried, without much success, a play by Tom Barry called *The Immortal Thief*. And this was followed by his most distinguished new contribution of the year. The stage version of Browning's *The Ring and the Book* was contemplated with some pessimism by most followers of the theatre but their doubts were groundless; *Caponsacchi* proved to be actable, colorful and moving. Living verse, pageantry, finished character acting, carried the play far above the commonplaces of the season, despite the dramatic clumsiness of the material. Cecil Yapp and Stanley Howlett, as well as Mr. Hampden, gave exceptional performances.

The Theatre Guild, now among the most forceful organizations in the New York theatre, had an uneven year. Probably the first part of the year was not especially successful so far as money goes, but we are all well educated to the belief that the Theatre Guild has no care for the usual goal of the manager and producer. And several of its performances were beautiful and interesting contributions.

In January *Goat Song*, by the German, Franz Werfel, opened at the Guild Theatre. The title is, of course, the literal rendering of the Greek words which we have called "tragedy." It was a beautifully massed and moving large-scale entertainment in color and motion alone. It was well that it was so, for its symbolism, not too abstruse in the book, was like most symbolism, terribly vague in the theatre. Alfred Lunt, Lynn Fontanne and Albert Bruning were among the better known members of the cast. The play was too expensive for production, except to capacity houses, and lasted but the usual subscription period. The first Theatre Guild financial success—and not a great one at that—came in April. This was the C. K. Monro comedy, *At Mrs. Beam's*. Mrs. Beam was the keeper of a boarding house, and the major business of the play was the delineation of character, perhaps in George Kelly fashion, but with more generally humorous results than Mr. Kelly usually achieves.

At about the same time as the production of *At Mrs. Beam's*, the formation of the Theatre Guild acting company was formally announced. The idea of a permanent or semi-permanent acting company was, of course, not new. Its desirability had been as obvious to actors as it had



been to the Guild people themselves, for years. But it had always meant a heavy financial burden to be carried the year round, and managers have, of late, been very much aware of that fact. It means the gathering together of a group of competent actors and actresses sufficiently capable to fulfill the demands of the repertory theatre. Such Thespians must of necessity be the best, or nearly the best, in their profession. The best is always expensive. The Guild's undertaking was a large one, and should have the happiest results. The members of the company as at first announced included, Alfred Lunt, Lynn Fontanne, Dudley Digges, Henry Travers, Clare Eames and Helen Westley. Guest players of importance are to be found in most of the later productions of the Guild, however.

Early February saw *The Shanghai Gesture* by John Colton, known best in the theatre as co-author of the dramatic version of the Somerset Maugham story known on the stage as *Rain*. *The Shanghai Gesture*, with Florence Reed as Mother Goddam, had a considerable commercial success. It was good melodramatic "hokum" of the shocker variety. A noteworthy performance was given by a young actress, Mary Duncan. Miss Reed gave the most exactly artificial performance of the season. That was certainly something. Following *The Shanghai Gesture* by a week or so was *Lulu Belle* by Charles MacArthur. This was a Belasco production destined for great success with Lenore Ulric in the title rôle. It was concerned, perhaps rather more intimately than necessary, with the private and public life of a negro damsel of light complexion and character. It gave with great faithfulness details of New York negro life in Harlem. And it gave a splendid opportunity for Lenore Ulric to prove, once again, that she is an actress of immense vitality and skill. Henry Hull supported her, in the play, literally, and, in the critic's sense, with real distinction. Mr. Belasco's scenes were in his usual photographic manner, thorough in every detail.

A revival that was not without its interest was that of the Louis K. Anspacher play of some years ago, *The Unchastened Woman*. As so many revivals prove, times have changed since the day in which *The Unchastened Woman* was called an important contribution to social and dramatic literature. Violet Kemble Cooper was the lady of the title, but nothing could alter the obvious fact that the play was dated and had only that historic interest which may attach to that vague era before the War. The play had no popular success in revival.

*The Bride of the Lamb*, with Alice Brady as its star, came to the Greenwich Village Theatre late in March. This was a play by William Hurlburt, known as the author of several plays of marked strength that have had no popular success. Its theme, the effects of the terrific emotional excitement that marked the advent of an old-fashioned evangelist, gave Alice Brady an opportunity for a display of dramatic pyrotechnics that was extremely effective. The title derives from the confusion, in the weak, emotionally starved woman, of the doctrine and the body of the intensely magnetic evangelist. In giving herself to him she seems to be giving herself to Christ. Her lack of mental balance intensifies—the curtain goes down as she babbles pitifully the stirring phrases that have become part of her in the excitements produced in the meetings. The

performance was in many ways noteworthy. The play, commercially, had only fair success. The eternal and unanswerable argument of the theatre-going public—that it wants to be entertained without being distressed—was manifested in its usual form. The public did not attend.

The "little theatre" of the country had its week early in May. The annual tournament for the David Belasco trophy was held at the Bayes Theatre. It was conducted by Walter Hartwig in coöperation with The Manhattan Little Theatre Club, Incorporated. Groups of players from all over the United States gave one-act plays; the prize-winners came from Dallas, Texas. Their play was *El Cristo*, by Margaret Larkin. As a demonstration of the countrywide influence of the stage, and of the importance of the "little theatre" as the possible home of the newer forms of the drama, the exhibition was interesting. As a matter of fact, there was little proof of vital influence on the commercial stage, which must still remain the real centre of the theatrical world—until such time as we develop more than just very good amateur acting. Amateur acting is and always must be just that. Still, we have seen in the Theatre Guild what the expansion of a small group may ultimately bring about.

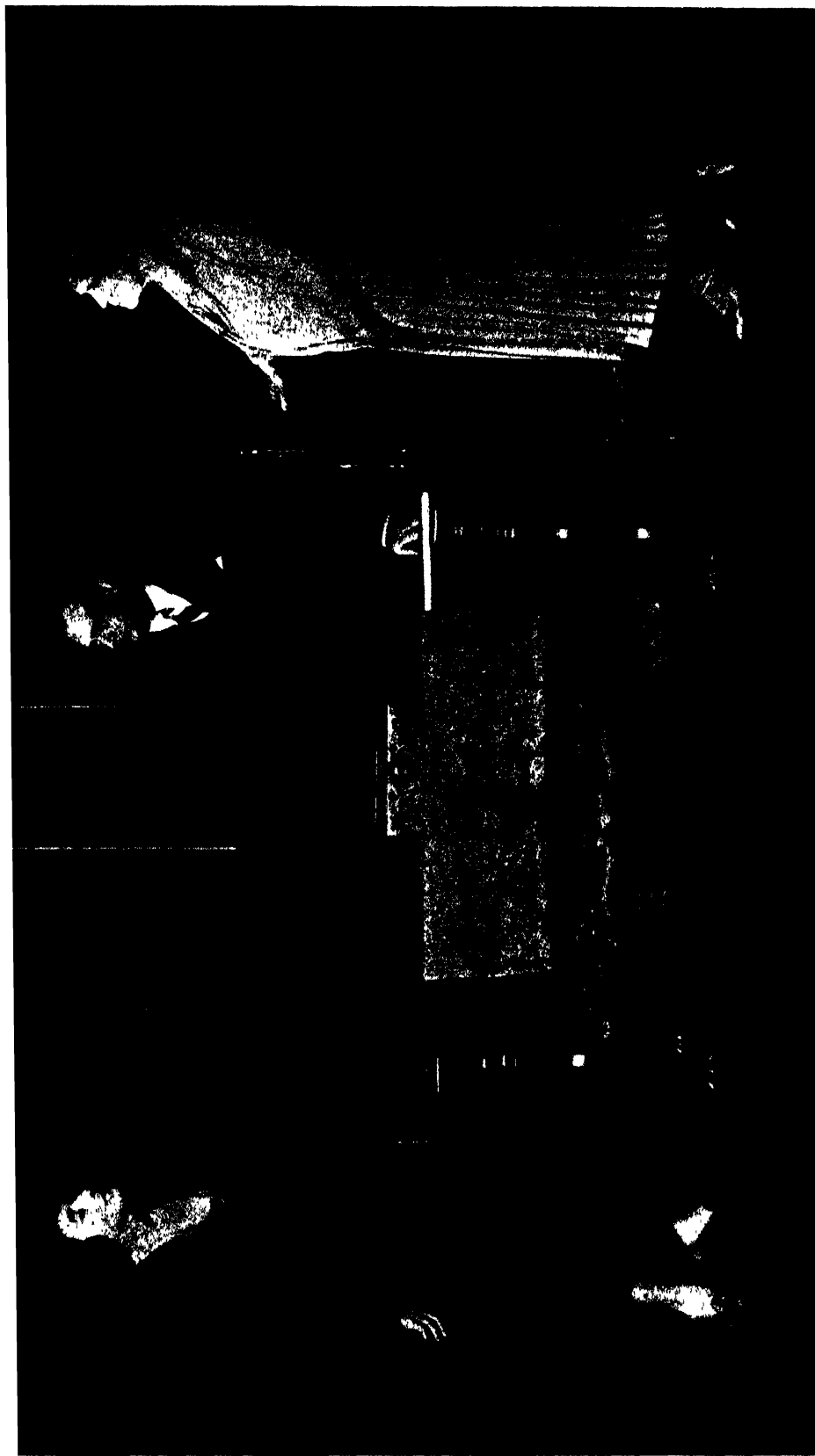
A gloomy and impressive play by Daniel N. Rubin, that bore the inauspicious title of *Devils*, was the last really interesting production of the season that was soon to pass into its usual summer slack-tide. *Devils* gave a forbidding picture of mistaken religion and backwardness among the Kentucky mountaineers. It bore traces of generic likeness to Hatcher Hughes' play of two or three years ago, *Hell Bent For Heaven*. But again the diet was too heavy for Broadway, and the play was a commercial failure. John Cromwell gave a strong performance as the Rev. Matthew Dibble.

The summer passed without giving rise to any obtrusions in the theatre that were more serious than the usual summer comedy. The Garrick Gaieties of the Junior Guild was diverting and gave opportunity for several members of its company to display themselves to such good advantage as to be found later in the year among the principals in various quite grownup musical comedies.

One of the first openings of the fall season was *The Donovan Affair* by Owen Davis, one of the real craftsmen of the American theatre. A succession of plays has streamed from his direction since the days of *Nellie, the Beautiful Cloak Model*. *The Donovan Affair* had a commercial success and was entitled to a place well up on the roll of the melodramas of its variety of the past few years. But there were many more interesting openings destined for the cooling nights of the fall season. Among them were to be *Broadway, Gentlemen Prefer Blondes, The Captive, Deep River, Suarez and Maximilian, An American Tragedy, White Wings*, and *Daisy Mayme*, as well as the Guild productions of two Sidney Howard plays.

*Broadway*, the most decided hit of the year, was the work of George Abbott and Phillip Dunning. It is a swift moving, vivid melodrama of Broadway life circulating in and around the night clubs. The reasons for its success were not difficult to discover; all the ingredients that seem so simple in analysis are there. The syn-





*Courtesy, Rosalie Stewart, Inc.*

"CRAIG'S WIFE," THE PULITZER PRIZE PLAY OF 1926

BY GEORGE KELLY; PRODUCED BY ROSALIE STEWART, INC.

SCENE FROM ACT I LEFT TO RIGHT CHRYSTAL HERNE CHARLES TROWBRIDGE, AND ANNE SUTHERLAND



thesizing of those same materials into another popular success will surely occupy a large part of the time of a good many of the commercial playwrights for the next year or two. Witness the crop of poor relations of *Abie's Irish Rose* that have come and gone.

*Gentlemen Prefer Blondes* came to town from a Chicago success late in September. It is, of course a dramatization, of a kind, of the material in Anita Loos' book of the same name. It is not a play at all in one conception of the drama; but as entertainment it may be placed well up on the list. In spite of the enormous publicity it received, the stage version achieved no more than moderate success. June Walker, in the title rôle, donned a blonde wig and proceeded to be the very incarnation of gentlemen's desire. Her performance was a splendid demonstration of her versatility, as one considers the parts she has played in the previous years.

*The Captive*, an adaptation of *La Prisonnière*, the French play by Edouard Bourdet, was one of the most discussed plays of the season. It received the dubious compliment of inspection by the New York play jury, a group of self-sacrificing men and women occasionally called on by the mayor or the district attorney to inspect possible threatenings of the community morality. Its theme, Lesbianism, was well handled from the dramatic point of view; probably there was no better written play on the American or European stage during the year. The rendering was excellent. Helen Menken, Basil Rathbone and an equally competent supporting company gave a very satisfactory performance. But the question that remained in many people's minds was the serious one as to whether there is not, after all, a possible limit to the exploitation of unhealthy human abnormalities for box-office purposes. There was probably no need for alarm; the public seemed to be well able to take care of itself, and would do so by the very simple and effective process of not going to see plays that were not good entertainment, despite the fact that they may be as lurid in their appeals as the tabloid newspapers. *The Captive* owed its commercial success primarily to the fact that it was good entertainment; only secondarily to the moral concern it aroused.

*Deep River*, a native opera, so-called, of American negro musical impulses and rhythms, was brought to town by Arthur Hopkins, but had only feeble success. It was lacking in popular appeal in spite of the apparently novel and interesting material it had to offer as its reason for being.

The Theatre Guild in mid-October staged a really noteworthy production, *Juarez and Maximilian*, by Franz Werfel. This production was worthy in every way of the best traditions of Guild performance. Popularly, it could not be reasonably expected to be very successful, and it was not. The treatment of the character of Maximilian, played magnificently by Alfred Lunt, was expository rather than dramatic. The Werfel conception of Maximilian as an essentially sensitive, impractical, gently visionary soul, was not adapted to that conflict that is the essence of theatrical effectiveness. But the production brought out the very satisfactory best of which the Guild is capable in directing and action. Clare Eames, Margalo Gilmore, Dudley Digges and Henry Travers were also in the cast.

Patrick Kearney's dramatization of Theodore Dreiser's *An American Tragedy* proved to be, as might have been expected, heavy material for the theatre. Morgan Farley played the lead, and the play had a fair success, mainly attributable to the wide publicity the book had received.

George Kelly's *Daisy Mayme*, an honest and artistic effort in his usual drab realism of manner, was not as much of a success as his two previous plays. It was a depressing repetition of Mr. Kelly's feeling that life in West Philadelphia may be a terrible thing. The characters are, without exception, grasping, small-souled, sordid. The resultant of their petty conflicts is unimportant except as social portraiture; which may, of course, make it very important. In his meticulous scrapings Mr. Kelly has been successful in imparting an overwhelming sense of the futility of so much of human life. At the moment the public has had, perhaps, all it desires of the manner in question.

Molnar's *The Play's the Thing*, came along in November and showed New York how cleverly an experienced dramatist could handle the materials of the theatre; in its easy sophistication it furnished justification for a real success. Holbrook Blinn was starred.

The three most noteworthy plays of the late year as it drew to a close with the usual holiday depression were all Guild productions. Two of them were by Sidney Howard; the other was a revival of Shaw's *Pygmalion*. The Shaw play may be allowed to pass with the remark that it was none too impressive to-day as Shaw, which does not mean that it was not amusing and well received. Poor Shaw may compare favorably with good current material, as has been demonstrated before.

*Ned McCobb's Daughter*, the first and the best received of the Sidney Howard plays, is a grim study of contrasting types in a northern New England setting. The second of his plays, produced by the Guild in alternation with their other plays of the late fall, was *The Silver Cord*, a development of the not unusual conception of the possible influence of a jealous mother's instinct in the relations of her grown-up sons with other women.

During the year a number of interesting foreign visits to the United States gave the native actors some idea of what constitutes distinction in the European theatres. Several well known foreign theatre groups played in New York, and in one or two cases went on tour. Among these were the Moscow Art Theatre, Raquel Meller, the Spanish disease, the Princess Theatre company of Madrid, Sacha Guitry and his wife, Yvonne Printemps, Cecile Sorel, Jacques Copeau and many others of lesser fame.

Raquel Meller, much heralded, arrived to play under the management of E. Ray Goetz. Her art, which seems to Americans to be best adapted to the short entertainment of the vaudeville theatre, was made to occupy some two hours, becoming of necessity monotonous. No one was disposed to deny Señorita Meller praise for the exquisite in her work; the usual qualification was that here suggested.

Before passing to a final résumé of tendencies in the theatre of the year it should be remarked that there was but one Eugene O'Neill play of the year. *The Great God Brown*, obscure as it was to some, nevertheless gave the impression, on further acquaintance, of being a sensitive and

poetic attempt at the impossible in the theatre of to-day, that turned out to be quite remarkably successful from the commercial point of view, its character considered. There were revivals of *The Emperor Jones* with Charles Gilpin, and an Actor's Theatre revival of *Beyond the Horizon*.

The Pulitzer Prize for the year was awarded to the George Kelly play mentioned in the 1925 YEAR BOOK, *Craig's Wife*.

As one glances over the list for the year, one can but be impressed by the technical equipment manifested by American dramatists of the moment. George Kelly, Eugene O'Neill, Sidney Howard, George Abbott, are names that are almost new to the world—young men of the theatre still, despite O'Neill's world-wide reputation—and there are a dozen others of potential power. It is quite possible that the finest productions of the theatre in America are finally to be reckoned as some of the plays already with us and soon to come. See *Drama*, under LITERATURE, ENGLISH AND AMERICAN.

The manner of theatrical expression has changed very little, after all. The brief spasm of expressionism that brought forth *Processional* a year or two ago seems to have passed. Imitations of the mood of *Processional* have been failures in almost every instance. *The Wisdom Tooth*, by Marc Connelly, of the past year, was merely fantasy in the familiar Barrie manner. *The Great God Brown* struck the most original note of the year but one that obviously will not bear frequent repetition. It will appear, then, that the year was not unusual and not unsatisfactory from the standpoints of both students of the drama and the casual theatregoing public. The establishment of the Theatre Guild in repertory and the undertaking of the establishment of a Civic Repertory theatre by Eva Le Gallienne, down in the old Fourteenth Street Theatre, may be suggested as in their way evidences, of the most important variety, of the prosperity and vitality of the theatre. Miss Le Gallienne's venture, which was fairly successful, aroused admiration for her courage; and a list of the plays she produced gives some idea of the scope of the so-called Civic Repertory Theatre. The plays which appeared in Fourteenth Street were *The Master Builder*, *John Gabriel Borkman*, *Saturday Night*, *La Locandiera*, *Twelfth Night*, *The Three Sisters*; several others were scheduled for production in the new year.

Among the musical shows of the year, Gilbert and Sullivan's *Iolanthe*, staged by Winthrop Ames, must be named as remarkably successful and satisfactory in revival. *The Pirates of Penzance* was produced later in the year with success, but without the distinction that marked *Iolanthe*. Among modern performance *The Song of the Flame*, *The Vagabond King*, *George White's Scandals*, *Americana*, *Oh Kay* and *Peggy Ann* must be numbered. The turn of the year arrived with a number of new musical productions in the offing, but after all there was nothing to rival the unusual success of *Rose Marie* and *Sunny* of last year.

The following were produced in the New York theatres during the year in approximately the order in which they are listed:

NEW PRODUCTIONS AND REVIVALS. From January 1 to June 1: *Dope*, *The Scarlet Letter*, *The House of Usher*, *Move On*, *Money Business*,

*The Dream Play*, *Tangled Lives*, *The Great God Brown*, *Goat Song*, *The Love City*, *Shelter*, *Nico*, *Hedda Gabler*, *A Weak Woman*, *Magda*, *Not Herbert*, *Puppy Love*, *Don Q., Jr.*, *John Gabriel Borkman*, *The Shanghai Gesture*, *Embers*, *The Matinee Girl*, *Little Eyolf*, *The Great Gatsby*, *The Jest*, *Love 'Em and Leave 'Em*, *The Beaten Track*, *The Jay Walker*, *Lulu Belle*, *Port o' London*, *The Wisdom Tooth*, *The Right Age to Marry*, *The Night Duel*, *The Right to Kill*, *You Can't Win*, *The Unchastened Woman*, *The Emperor Jones*, *Cyrano de Bergerac*, *The Virgin*, *Mamma Loves Papa*, *The Creaking Chair*, *Still Waters*, *Square Crooks*, *The Masque of Venice*, *Nirvana*, *The Trouper*, *Find Daddy*, *East Lynne*, *The Moon Is a Gong*, *Juno and the Paycock*, *Hush Money*, *Ninety Horse Power*, *Ghosts*, *Devils*, *Schweiger*, *Easter*, *One Day More*, *The Chief Thing*, *What's The Big Idea*, *The Half-Caste*, *The Bride of the Lamb*, *Kongo*, *Aucassin and Nicolette*, *The Two Orphans*, *Beau Gallant*, *A Stranger In the House*, *Glory Hallelujah*, *Love-in-a-Mist*, *The Bella*, *White Cargo*, *What Every Woman Knows*, *Aloma of the South Seas*, *Three Doors*, *The Poor Nut*, *The Gorilla*, *Rosmersholm*, *Pomeroy's Past*, *At Mrs. Beam's*, *Beau-Strings*, *A Friend Indeed*, *Sea*, *The Importance of Being Earnest*, *The Servant In the House*, *The Sport of Kings*, *The Romantic Young Lady*, *The Climax*, *The Guerro Mendoza Company* in repertoire, *One Man's Woman*.

From June 1 to December 30: *Henry IV*, *The Half-Naked Truth*, *Beyond Evil*, *The Blonde Sinner*, *Honest Liars*, *Pyramids*, *No More Women*, *My Country*, *Loose Ankles*, *The Little Spit-Fire*, *Sunshine*, *The Home Towners*, *Henry—Behave*, *The Ghost Train*, *Service For Two*, *The Donovan Affair*, *The Adorable Liar*, *Potash and Perlmutter*, *Detectives*, *She Couldn't Say No*, *If I Was Rich*, *Scotch Mist*, *Fanny*, *Yellow*, *Sandalwood*, *The Shelf*, *The Judge's Husband*, *Gentlemen Prefer Blondes*, *The Woman Disputed*, *The Captive*, *The Immortal Thief*, *Happy-Go-Lucky*, *Sour Grapes*, *What's The Use*, *No Trespassing*, *Number 7*, *Two Girls Wanted*, *Henry's Harem*, *Just Life*, *Broadway*, *Treat 'Em Rough*, *The Good Fellow*, *Black Boy*, *The Jeweled Tree*, *Secret Sands*, *The Lion-Tamer*, *Buy Buy Baby*, *The Humble*, *The Straw Hat*, *Juarez and Maximilian*, *An American Tragedy*, *Rain*, *We Americans*, *They All Want Something*, *White-Wings*, *On Approval*, *God Loves Us*, *John Ferguson*, *Sure Fire*, *The Noose*, *The Ladder*, *Daisy Mayme*, *Saturday Night*, *Autumn Fire*, *The Three Sisters*, *Caponsacchi*, *The Genile Grafters*, *Loose Ends*, *The Seed of the Brute*, *The Master Builder*, *The Play's the Thing*, *The Little Clay Cart*, *Mozart*, *Ned McCobb's Daughter*, *Up the Line*, *La Locandiera*, *This Was A Man*, *Beyond the Horizon*, *Say It With Flowers*, *Pygmalion*, *Lily Sue*, *The Constant Wife*, *Princess Turandot*, *First Love*, *Naked*, *Head or Tail*, *Old Bill*, *M. P.*; *The Squall*, *A Proud Woman*, *Gertie*, *Slaves All*, *The Strange Prince*, *This Woman Business*, *The Constant Nymph*, *Howdy King*, *Hangman's House*, *The Dybbuk*, *The Wooden Kemono*, *What Never Dies*, *The Devil in the Cheese*, *Chicago*, *In Abraham's Bosom*, *New York Exchange*.

MUSICAL AND REVUES: *Carmencita* and *the Soldier*, *Love and Death*, *Sweetheart Time*, *The Bunk of 1926*, *Kitty's Kisses*, *Garrick Gaieties*, *The Great Temptations*, *Lucky Sambo*, *The Merry World*, *George White's Scandals*, *Grand*

*Street Follies of 1926, Ziegfeld Palm Beach Girl, My Magnolia, Americana, A Night In Paris, Nio Nao in 1926, Earl Carroll Vanities, Queen High, The Ramblers, Honeymoon Lane, Costles in the Air, Naughty Biquette, Countess Maritza, Deep River, Criss Cross, Katja, The Wild Rose, The Pearl of Great Price, The Desert Song, Twinkle Twinkle, Oh Kay, Gay Paree, The Pirates of Penzance, Oh Please, Peggy-Ann, Betsey.*

See **Drama** under **FRENCH LITERATURE**, and **GERMAN LITERATURE**.

**THEODORINI**, HELENA. Rumanian dramatic soprano, died in Bucharest, in March. She was born at Craiova, Mar. 25, 1862. At the age of 9 she appeared in public as a pianistic prodigy, and, after further study of the piano and of singing at Milan, made her operatic debut at Cuneo, in 1879, as a contralto. Gradually her voice changed, and she appeared as a soprano in Warsaw, Milan, Madrid, Lisbon, London, and Buenos Aires. In the last-named city, where she celebrated her greatest triumphs, she remained a number of years. In 1903 she was married to Baron d'Harmezak and retired from the stage, settling in Paris as a teacher. From 1916-18 she resided in New York.

**THEOSOPHICAL SOCIETY**. An organization claiming to be the direct outgrowth of the Theosophical movement which was organized in New York in 1875. During the year 1926 the international president, Dr. Annie Besant, returned to the United States bringing with her a young Hindu, J. Krishnamurti, whom she claimed to be the chosen vehicle through which the "Messiah" or World Teacher would speak when He should come again. The Society had, in 1926, over 10,000 members, of whom 8582 were active. Its periodicals were *The Messenger*, the American official organ, and *The Theosophist*, issued at the headquarters in India. The headquarters of the American Theosophical Society were at 826 Oakdale Avenue, Chicago; L. W. Rogers was president, and Mrs. Maude N. Couch, secretary-treasurer.

**THEOSOPHY**. The Theosophical movement was founded in New York City in 1875, by Mme. Helena Blavatsky. Its aim is the spiritual quickening, the moral elevation, and the intellectual enlightenment of the race on the questions of man's origin, nature, and destiny, and his relation to the universe about him. It is aided by a number of working organizations. It is not a belief or dogma, but its members may hold any religious belief or none, its purpose being merely the searching for truth, wherever and in whatever form it is to be found. During the year 1926 a number of unrelated movements were active in the name of Theosophy, particularly the "Messiah" movement. See **THEOSOPHICAL SOCIETY**. Publications of the year include a French translation of Madame Blavatsky's *Au Pays des Montagnes Bleues*, the translation from English into French of the *Ocean of Theosophy*, and new editions of *The Mahatma Letters to A. P. Sinnett*, and *The Theosophical Movement, 1875-1925, A History and a Survey*.

**THERMITE**. See **CHEMISTRY, INDUSTRIAL**.

**THERMOMETER**. See **CHEMISTRY, INDUSTRIAL**.

**TETFORD**, BISHOP OF. See **BOWERS**, RT. REV. JOHN PHILLIPS ALLCOT.

**THURIN'GIA**. A federated state of the Ger-

man republic, created at the end of 1919; comprising the following states of the former German Empire—Eisenach, Gotha, Reuss, Saxe-Altenburg, Saxe-Meiningen, Saxe-Weimar, Schwartzburg-Rudolstadt, and Schwartzburg-Sondershausen. Area, 4541 square miles; population, according to the census of 1925, 1,628,398. Capital, Weimar, with a population in 1919 of 41,403. Other large towns with their populations at that date were Gera, 74,993; Jena, 53,906; Gotha, 48,543; Eisenach, 41,375. The arable land is estimated at 44 per cent of the total area. The acreage and production of the principal crops in 1924 were: Wheat, 140,827 acres, 101,412 tons; rye, 169,088 acres, 104,569 tons; oats, 140,827 acres, 132,830 tons; potatoes 159,253 acres, 484,719 tons. The government is under a diet, which acts through a state council. In the elections held in February, 1924, the following parties were returned: Conservative bloc, 35; Socialists, 17; Communists, 13; German Race Party, 7. The executive authority is intrusted to the president of the state council. The president of this council in 1926 was Dr. Leutheusser.

**THYSSEN**, AUGUST. German steel magnate and industrialist, died at Lindsberg Castle, near Muehlheim, Germany, April 4. He was born of poor parents at Eschweiler, in the Rhineland, May 28, 1842. In his early twenties he founded a rolling mill at Duisburg, and as occasion offered he developed his business and in 1871 he founded the firm of Thyssen & Co., at Muehlheim. This marked the beginning of Germany's industrial era. With his competitors, Krupp and Stinnes, Thyssen expanded steadily, until he earned the sobriquet of "King," controlling more than 70,000 employees. He was also known as the father of the "vertical trust" idea, and in addition to the grip he held on most of the prime industries of Germany he became absolute master of the country's iron and coal. At the beginning of the World War, to which Thyssen was strongly opposed, his blast furnaces and steel mills produced annually 1,000,000 tons of iron and steel, and he was also owner of railroads, docks, and steamship lines. The ramifications of his industries were world wide, his holdings extending through India, France, Belgium, Holland, and South America, to name only the important branches. During the War he manufactured small arms for the Central Powers and competed for large arms so successfully that he broke the Krupp monopoly. In 1911 he had discussed with Judge Elbert H. Gary, at a conference in Brussels, his dream of a world steel trust. He was opposed to a hereditary monarchy and never concealed his aversion to the Kaiser, refusing a decoration at Wilhelm's hands for the services he rendered his country during the World War. He was decorated by the Pope, receiving then the only decoration he would ever accept.

**TIBET**, TI-bét' or tib'et. A region extending eastwards from the Pamirs to the border of China; between the Himalaya and Kwenlun Mountains; nominally under the suzerainty of China. Area, estimated at 463,200 square miles; population, variously given, at 1,500,000 to 6,000,000, the probable figure being about 2,000,000. Capital, Lhasa, with a population of 15,000 to 20,000. Lamaism is the prevailing religion. The chief pursuits are pastoral, and the animals raised include sheep, yak, buffaloes,

pigs, and camels. Some agriculture is carried on, the products including barley, pulse and other cereals, and vegetables. There are considerable industries of wool spinning, weaving and knitting. Of the minerals, gold, borax, and salt are mined to some extent. Trade is chiefly with India and China.

**TIMBER.** See FORESTRY.

**TIN.** In 1926, with decreased supplies and deliveries of tin, the market for this metal continued to range on higher levels than for several years previously. In New York in 1926 the price ranged from 58½ to 72½ cents per pound, as compared with 50½ to 64½ cents per pound in 1925. During the year there were decreased supplies as compared with the previous year, the *Engineering and Mining Journal*, in the table given herewith, estimating the totals at 117,503 tons, as compared with 119,664 tons in 1925. There were increased shipments from Banka and Bolivia and smaller shipments from the Straits Settlements and China. The deliveries of tin increased 2 per cent in the United States, but decreased 20 per cent in the rest of the world in 1926. The deliveries in 1926 totalled 119,201 long tons, as compared with 120,728 tons in 1925.

#### TIN SUPPLIES, DELIVERIES, IN TONS (LONG)

<i>Supplies</i>	1926	1925
Straits shipments . . . . .	76,474	78,952
Austrian . . . . .	1,333	1,186
Banka . . . . .	16,445	14,177
Chinese . . . . .	3,022	7,421
Standard . . . . .	20,229	17,928
<b>Totals . . . . .</b>	<b>117,503</b>	<b>119,664</b>
<i>Deliveries</i>		
United Kingdom . . . . .	14,890	18,977
Continent . . . . .	20,461	21,175
<b>Total Europe . . . . .</b>	<b>35,351</b>	<b>40,152</b>
Other countries . . . . .	5,800	10,121
<b>United States . . . . .</b>	<b>41,151</b>	<b>50,273</b>
<b>Totals . . . . .</b>	<b>119,201</b>	<b>126,728</b>
Visible supply January 1 . . . . .	18,024	25,088
Visible supply December 31 . . . . .	16,326	18,024
<b>Decrease . . . . .</b>	<b>1,698</b>	<b>7,064</b>

**TIBOL.** See TYROL.

**TOBACCO.** The tobacco crop of 1926 was an average one. Production of cigar types was below the average, while that of cigarette types was above the average, but not in excess of the trend of consumptive needs. Pipe, chewing, and export tobaccos were slightly below average, but most types were somewhat above consumptive needs. The total tobacco crop was estimated at 1,323,388,000 pounds, produced on 1,664,700 acres. The crop was more than 50,000,000 pounds less than in 1925, but somewhat larger than in 1924. In both previous years the acreage was larger than in 1926. North Carolina led Kentucky in 1926 as the premier State, with a crop of 393,190,000 pounds, worth at current prices about \$103,802,160. Kentucky's crop was 374,880,000 pounds, with a considerably smaller value per pound. More tobacco was exported from the United States and at higher prices than in 1924-25. Bright flue-cured tobacco, the principal cigarette type, constituted over 60 per cent of the total exports of leaf tobacco. Of this, 35 per cent was taken by the

United Kingdom, which continued to be the leading market for American leaf tobacco, and 18 per cent went to China. The increased amount for China was the leading export feature. This market had steadily increased since the War, displacing France as the second largest consumer of American leaf. Coincident with the rapid expansion of foreign trade in cigarette leaf, there had been a decline in demand for cigar types.

Receipts from tobacco taxes of various kinds in the United States during the fiscal year 1926 were the greatest in the history of the internal revenue service, and exceeded the total internal revenue collections from all sources for any year prior to 1914. The total collections from this source were \$370,666,438.87, an increase of \$25,419,227.91, or 7.36 per cent, over 1925. The amount represented 13.07 per cent of the total internal revenue receipts from all sources. Of the total tobacco tax, 68.75 per cent was derived from small cigarettes, amounting to \$254,824,808.19, an increase of 13.24 per cent over 1925. North Carolina far exceeded all other States in tax paid on tobacco manufactures. The revenue act of 1926 repealed the tobacco special taxes and reduced the rates of taxes on large and small cigars. For further statistics on the tobacco industry see the annual report of the Commissioner of Internal Revenue, Washington, 1926.

**TOBAGO.** A West Indian island, included administratively in Trinidad (q.v.).

**TOGO,** tō'gō, or TOGOLAND. A former German protectorate; after the War, divided between Great Britain and France; situated between Dahomey and the Gold Coast. Total area, 33,700 square miles; total population estimated at 762,208, of whom 245 were Europeans. Hamitic tribes make up the population of the north, while in the south the chief stock is the Ewe. To France has been allotted about two-thirds of the total area; namely, 21,200 square miles, including all the coast. The British part bordering the Gold Coast has an area of 12,600 square miles, with a population, according to the census of 1921, of 188,265. The soil is generally fertile and the forests are extensive; the mineral resources are rich but undeveloped. Iron is reported to be especially abundant. Statistics for exports, imports, revenue, and expenditure are no longer available, because they are included in the general totals of the Gold Coast. The governor of the Gold Coast is the administrator of the territory.

In French Togo, the natives engage in agriculture and some manufacturing. The chief agricultural products are corn, yams, plantains, peanuts, etc. The forest products are of some value, but the chief trade is in palm oil, palm kernels, cacao, copra, cotton, and rubber. The native industries include weaving, straw-plaiting, wood-cutting, pottery, etc. In certain districts the natives engage in iron smelting. In 1924 the imports were valued at 54,925,943 francs; exports, 61,171,420 francs. The budget for 1925 balanced at 16,878,500 francs. From Lome, the seat of the government, there are railway connections with Anecho, Palime, and Atakpame, with a total length of 204 miles. In 1924, 310 vessels cleared from the two ports of Lome and Anecho.

**TOLEDO,** UNIVERSITY OF THE CITY OF. An institution of higher education at Toledo, Ohio;

founded in 1872. The enrollment for the autumn of 1926 totaled 1456, including 649 day students, 203 afternoon, and 604 evening students. There were 270 students registered for the summer session. The faculty had 69 members, an increase of 7 over 1925. The productive funds of the University amounted to \$200,000. The library contained about 20,000 volumes. Following the death of President Dowd on May 13, 1926, Dr. Ernest Ashton Smith was chosen President, and entered on his duties December 1, although his inauguration date was set for some time in January, 1927.

**TONGA OR FRIENDLY ISLANDS.** Three groups of islands, together with small, outlying islands, to the east of Fiji in the Pacific Ocean, between 15° and 23° 30' S. latitude and 173° and 177° W. longitude; since May 19, 1900, a protectorate of Great Britain. Total area, approximately 385 square miles; population, according to the census of 1921, 23,759 Tongans; 370 other Pacific islanders; 571 Europeans; and 235 half-castes. The natives are Christians, about 16,000 belonging to the Free Church of Tonga. At the end of 1924 there were 105 public primary schools, with 4600 pupils enrolled. Tonga College had 8 teachers and 161 students at the end of 1924. Native produce consists almost entirely of copra. Revenue in 1924-25, £74,345; expenditure £63,585; exports, £306,658; imports, £232,600. The government is under the high commissioner of the Western Pacific, who acts by the advice of the local ruler and native chiefs. Queen in 1926, Salote, who succeeded April 12, 1918; high commissioner for the Western Pacific, Sir Cecil Hunter Rodwell.

**TONGKING**, tōn'kēn. A French protectorate, constituting the northern chief division of the colony of French Indo-China, south of the Chinese provinces of Kwangsi and Yunnan. Area, 40,530 square miles; population in 1924, 7,160,113, of whom 10,113 were Europeans, exclusive of military forces. The chief city is Hanoi, which is the capital of French Indo-China, with a population of 115,000 in 1923. The chief crop is rice, although there is also a large annual production of raw silk. The mineral resources include limestone quarries, calamine, and tin mines, as well as rich anthracite coal beds. Among the principal imports are metal tools and machinery, yarns, and cotton. The chief exports are rice, corn, and animal products. Imports in 1924, 492,003,265 francs; exports, 372,153,000 francs. The local budget for 1925 balanced at 16,139,030 piastres. In 1924, 1019 vessels of 1,338,216 tons entered and cleared from the port of Haiphong. The government is under a resident superior, who in turn is under the governor-general of French Indo-China.

**TOPAKYAN**, HAGA ZOUNE HOHANNES. Former Persian consul-general and Oriental rug merchant, died in New York, N. Y., on October 14. He was born in Constantinople, Turkey, on Nov. 5, 1864, and was educated at the public schools there and at the American College in Turkey. After experience he engaged in his father's dry goods business. In 1887 he left Turkey for the United States. He engaged in business in New York City, and he was appointed, by the Persian Government, Imperial Commissioner and Director General of its exhibits at the World's Columbian Exposition

held at Chicago in 1893. The Persian and Ottoman pavilion there was built at his expense. In 1908 he was consul general for Persia at New York. He made many gifts of rugs and carpets to the White House. He had Persian, Turkish, and Venezuelan decorations and in 1911 he was vice president of the International Peace Forum, and in 1915 he was Persian Commissioner General to the Panama-Pacific International Exposition.

**TORLONIA**, PRINCE AUGUSTO. Italian nobleman, died at Milan, Italy, April 17. He was born in 1855 of a family established about a century ago, but allied by marriage to many of the oldest families of the Roman patriciate. His name will ever be recalled in connection with the draining of the Lacus Fucinus (modern Lake Fucino), which had for centuries caused death and destruction to the surrounding country. From the time of the Cæsars many unsuccessful efforts had been made to drain this lake but it was only accomplished when the fortune of the Torlonia family and French engineering skill were brought to bear. A tunnel through solid rock, hundreds of feet below the surface and eight miles long, was made, and the lake drained into the River Liris. This draining of the lake added an area of more than 100,000 acres to Italy's cultivable domain.

**TORONTO**, UNIVERSITY OF. An institution of higher education at Toronto, Canada, supported by the provincial government; founded in 1827. The 1926 fall enrollment was 5068, distributed as follows: Arts, 2608; medicine, 760; applied science and engineering, 485; household science, 101; Ontario College of Education, 210; forestry, 51; music, 40; graduate students, 335; dentistry, 322; social service, 98; public health nursing, 32; university extension (occupational therapy), 26. In 1925-26 the faculty had 672 members, as follows: Professors, 85; associate professors, 63; assistant professors, 62; directors, 2; lectures and associates, 123; demonstrators, 336. The total expenditure for the year 1925-26 was \$2,454,355. The library contained 211,118 volumes. During the year a two-year diploma course in occupational therapy was started, and the St. George School for Child Study founded, under the direction of the department of psychology. In 1925 the new Forestry Building was completed at a cost of approximately \$122,000. In 1926 there were under construction a Hygiene and Public Health Building, to cost about \$432,000; an addition to the Press Building, to cost \$43,000; and a Hockey and Skating Arena, to cost \$224,000. Among the gifts received during the year were \$312,500 from the Rockefeller Foundation for the School of Hygiene; the annual payment of the Eaton Endowment, \$25,000; \$12,000 for the Laura Spelman Rockefeller Memorial for Child Research; subscriptions for the Banting Research Foundation, \$420,015; and other smaller contributions which brought the total gifts received to \$799,622.45. President, Sir Robert A. Falconer, K.C.M.G., Litt.D., D.D., D.C.L., LL.D.

**TORPEDO BOATS.** See VESSELS, NAVAL.

**TOSELLI**, ENRICO. An Italian pianist and composer, died in Florence, January 15. He was born in the same city, Mar. 13, 1883, and studied under Sgambati and Martucci. He made extended tours as a pianistic prodigy, visiting the United States in 1900. An operetta, *La principessa bizzarra*, was produced in Milan

(1913). He also wrote a symphonic poem and several suites for string quartet. He married in 1907, the divorced Crown Princess Louise of Saxony, who, in turn, divorced him in 1912.

**TOUCHET, CARDINAL ARUBO.** Bishop of Orleans, France, died on September 23, at Orléans, France. He was born Nov. 13, 1848, at Bayeux, France, and was entrusted by Pope Leo XIII with the task of establishing the claims of Joan of Arc to canonization in the Roman Catholic Church. The Cardinal took part in the beatification of Joan of Arc in 1909, and later presented to the Pope a bronze statue of her. He was created a Cardinal in 1922.

**TOWN PLANNING.** See CITY PLANNING.

**TOWNSLEY, CLARENCE PAGE.** American army officer, died at Washington, D. C., December 28. He was born at DeKalb, St. Lawrence County, N. Y., September 24, 1855, and after graduating at the State Normal School at Potsdam and at Union College, entered the United States Military Academy from which he graduated in 1881, being commissioned second lieutenant in the Fourth United States Artillery. He rose through successive grades in the army, attending the Artillery School at Fort Monroe and the Torpedo School at Willetts, N. Y. During the Spanish-American War he served as chief ordnance officer. He was commandant of the Coast Artillery School at Fort Monroe, 1909-11, and of the Second Provisional Regiment of Coast Artillery in Texas in 1911. He served as superintendent of the United States Military Academy from Aug. 31, 1912 to July 1, 1916, and in the following year, after the United States entered the World War, was appointed commander of the Thirtieth Division. In January, 1918, he went to France on a tour of observation, and later in the year took command of the artillery district of the North Pacific with headquarters at Seattle, retiring from active service as brigadier-general, U.S.A., Nov. 29, 1918.

**TRACK ATHLETICS.** See ATHLETICS, TRACK AND FIELD.

**TRADE-UNIONS.** The history of American trade-union activities over the year will be found under LABOR, AMERICAN FEDERATION OF, and in the general article LABOR. The work of the International Labor Office is narrated in the article LABOR, INTERNATIONAL ORGANIZATION OF. Other phases of domestic and foreign trade-union activities are treated below.

**GREAT BRITAIN.** The 58th annual meeting of the British Trades-Union Congress was held Sept. 6 to 11, 1926. The atmosphere of the congress was much sadder than that of the last meeting. In the interim had taken place the general strike (see under GREAT BRITAIN; *History*) and the long drawn out coal strike, which, moreover, was still unsettled at the time of the congress. Whatever may have been the thrill of battle, the trade-unionists had to face the fact that they had exhausted all their funds in the nine-day struggle. They had also to face the fact that there were 3,000,000 unemployed (including the miners on strike), and that the government had at length taken the side of the owners in the coal strike. In the circumstances, the administration of the congress restricted discussion, and little mention was made of the general strike. A report published after the congress adjourned criticized the attitude of the miners in precipitating the

strike, and the anti-labor press saw in this a sign of division in labor ranks.

The general council, which the year before had asked for a broad increase of its powers, this year did not want any more powers added to it. Nor was the congress itself inclined to grant any new powers to the council. On all hands there was a general inclination to go slow in the future.

A certain amount of tension was evident in the relations between the officials of the Miners' Federation and the rest of the congress. A. J. Cook, the miners' general secretary, was inclined to lecture the congress on its failure to do its duty by the miners. He proposed a compulsory general levy. The congress, however, while deeply sympathetic with the plight of the miners and their families, thought such a levy inadvisable. The railway and transport workers also objected to another proposal of the miners calling for an embargo on coal transport. They felt that such a thing could not be carried through without a national stoppage of work.

A curious incident arose in the receipt of a telegraphic message by L. Tomsky, the head of the Russian unions, to the congress. M. Tomsky was to have been the Russian delegate at the congress, but at the last moment the British government declined to visé his passport. Therefore he contented himself with sending a propaganda plea for revolutionary Communism and the seizure of power by the working class. The congress did not take kindly to the invitation, and even the "left wing" kept quiet. The congress decided to delay the opening of the new Trade Union College. It was evident that the delay was caused by the financial exhaustion of the unions in the general strike.

**ITALY.** The reorganization of the Italian labor unions on a Fascist model, which Mussolini began by law in 1925, was completed in 1926. The *Official Gazette* published early in the fall a list of regulations governing the application of the law establishing legal control over the collective relations of capital and labor, and also a decree creating the new Ministry of the Corporations. These regulations and the decree clearly indicated that Fascist Syndicalism was an accomplished fact.

The Fascist system of labor control has to be understood both in theory and in practice. In theory the state takes no sides between capital and labor, between associations of employers and associations of workmen. Both are officially recognized and put under the control of the state. The labor unions are forbidden to strike, and the employers' bodies are forbidden to use the lockout. A system of compulsory arbitration is enforced on both groups. The groups are subject to severe fines for violating the law, and in many cases the leaders can be imprisoned. Thus, in theory we have a Syndicalist system, with the state intervening to assert the general will and to defend the public interest.

In practice, however the Fascist system has to be understood as favoring the employers, by whose contributions Fascism was originally launched. As is stated in *Special Circular No. 10* issued by the United States Bureau of Foreign and Domestic Commerce, "the employers are readily complying with the new law, the



employees reluctantly." The same circular goes on to state:

The existing associations of employers have all been preparing to comply with the conditions laid down, and have been preparing for their legal recognition, without which they would be practically powerless. On the other hand, the situation, so far as the labor unions are concerned, has been entirely different. The old Socialist unions, which until a few years ago exerted such a dominant influence in Italian affairs, find themselves practically legislated out of existence, since recognition will be accorded only to the new unions which have come into being since the advent of the present government. Since all those belonging to a group are required to contribute to the support of the association legally representing their group whether they are members of such association or not, they will naturally become members wherever possible, in order to enjoy whatever advantages such a status may imply. Regardless of their political convictions, the former Socialists are rapidly swelling the ranks of the Fascist unions, and their strength is such that they may eventually exercise a considerable influence in the determination of policies. The funds at the disposal of these unions will be large, and they will represent a force that will have to be reckoned with.

While it is thus evident that the Fascist system, on paper, cannot be taken as indicating the actual relations of capital and labor in Italy in 1926, the provisions have an importance in themselves, since they may continue in force long after the existing political situation disappears. The provisions of the system of regulations is summarized herewith, according to the circular of the Bureau of Foreign and Domestic Commerce:

1. *Conditions for Recognizing Associations.* The law provides for the legal recognition, by the state, of one organization representing each group of society according to occupation, either employers or workers, both manual and intellectual, and of federations of such organizations. In order to be eligible for recognition, an employers' association must comprise a voluntary membership of firms employing together not less than one-tenth of the workers employed in that particular field; an association of workers must have a voluntary membership of one-tenth of the workers in the particular field. The election or nomination of the presidents or secretaries of all associations, national, district or provincial, must be approved by royal decree, and is revocable at any time. Their selection must be proposed by the appropriate minister, in collaboration with the Minister of the Interior.

2. *List of National Confederations Recognized.* The associations legally recognized may unite in federations or confederations, one of which for each group may be legally recognized. When such a federation or confederation has been recognized, no association or federation which does not form a part of it is entitled to recognition. The national confederations are limited to 13, one for each of the accompanying groups:

*For the Employers*

1. Manufactures.
2. Agriculturists.
3. Merchants.
4. Ocean and aerial transportation.
5. Land and inland water transportation.
6. Bankers.

*For the Workers*

7. Industrial workers and employees.
8. Agricultural workers and employees.
9. Commercial workers and employees.

10. Ocean and aerial transportation.
11. Land and inland water transportation.
12. Banking workers and employees.

*For the Liberal Professions*

13. Professional people and artists.

3. *Central "Corporations."* Provision is made for uniting the national associations of employers, intellectual workers and manual workers through a central body, made up of representatives of each class, called a Corporation, which is created by the decree calling into being the new Ministry of the Corporations already mentioned. These corporations have no independent legal status, and are defined in the law as "organs of the administration of the state." Their principal functions are to conciliate disputes, promote greater production, establish employment offices, issue regulations governing apprentices, etc.

4. *Collective Contracts.* Only collective labor contracts concluded by legally recognized associations shall be valid, these being binding on all members of the group concerned. These contracts are to be in writing, and must be made public. Labor associations, collectively, shall be responsible for breaches, and may be sued in the civil courts. Members are responsible only in so far as they have failed to do everything in their power to comply with the law. No collective agreements are permitted in cases of personal or domestic service.

5. *Labor Courts.* All disputes are placed under the jurisdiction of the courts of appeal, serving as labor courts. However, before any decision is rendered an attempt at conciliation must be made by the president of the court. At each court of appeal a special labor section is created, composed of three magistrates and two private citizens expert in labor problems.

6. *Conditions of Court Settlement.* Emphasis is laid in the laws on the viewpoint that in making decisions the superior interests of production must take precedence over those of either group, of labor or employers. This provision is designed to allay the fears of manufacturers that the labor courts will yield too readily to pressure from the laboring classes. Another provision of interest is that local conditions are to influence wage decisions. Disputes may still be settled by conciliation or arbitration without having recourse to the labor courts.

MEXICO. A membership of 1,500,000 was enrolled in the Mexican Federation of Labor (Confederación Regional Obrera Mexicana). The C.R.O.M., as the organization is generally known, held its seventh annual convention at Mexico City, May 1-6, 1926. Statistics made public at the convention traced the phenomenal rise of the organization from a membership of 7000 in 1918 to the figure given. The movement of unionization among the Mexican workmen showed no sign of diminishing, and the leaders did not believe that the high-water mark of enrollment had yet been reached.

Perhaps the most important resolution of the convention was that calling into being an Institute of Social Science, or workers' college, which was to be maintained by the C.R.O.M. Still other resolutions called for the formation of labor and farm loan banks, and for the adoption of the Rochdale system of coöperation for the construction of houses, as well as the or-

ganization of consumers' coöperatives on the basis of production.

CANADA. The Dominion Department of Labor made public the accompanying figures on trade unions in Canada during 1925:

	Branches	Members
International craft unions .....	1,985	172,578
Industrial Workers of the World ..	6	10,000
One Big Union .....	58	17,256
Non-international organization ....	311	34,070
Independent unions .....	40	12,185
National and Catholic unions .....	99	25,000
Total .....	2,494	271,064

\* For 34 branches.

The membership in the international craft unions shows a drop of 17,908 from 1924. The non-international organizations and the independent unions gained 12,309 and 264 members, respectively. The national and Catholic unions remained unchanged in strength, while the I. W. W. lost 1500 members as compared with the previous year. The One Big Union report is the first since the War, and no comparative figures are available for that organization.

INDIA. The sixth session of the All-India Trade Union Congress was held at Madras, India, Jan. 9-10, 1926. There were 110 delegates present, and these represented 52 unions with a combined membership of over 125,000. The 52 unions are divided as follows: Railway men, 15; textiles, 10; general laborers, 7; transportation other than railroads, 7; seamen, 3; posts and telegraphs, 2; commercial employees, 2; paper and printing, 2; engineering, mining, iron and steel, chemical industries, 1 each. All these unions have been organized since 1918. The session passed a number of resolutions on economic and political subjects. In the political field may be mentioned the resolution calling for the adequate representation of labor in the central and provincial legislatures, the representation to be elective and not appointive. Chief among the economic demands were the eight-hour day, public employment bureaus, maternity benefits, and other forms of protection for women in industry. The congress also protested against the discriminatory legislation passed by the Union of South Africa, and decided to appeal to the South African Labor Party, in the name of international solidarity, to help repeal legislation of this type. See GREAT BRITAIN under *History*.

TRANSJORDANIA. A territory of Asia Minor inhabited by Arabs, of which the territorial and political status was still unsettled in 1926, although nominally under the mandate of Palestine; situated to the east of the Jordan and north of the Arab dominions of the Hedjaz and Nejd. The area is uncertain because of the unsettled boundaries; the population has been estimated at 240,000, of whom 220,000 are Arab Moslems. About half the population are nomads, the rest living in villages. A large part of the surface is desert. In the arable regions the principal pursuits are agriculture and stock raising. The estimated revenue for 1925-26 was ££51,670 and the grant-in-aid from the British government ££14,479. In 1923 the British government recognized the local Arab rule on condition that it should conform to constitutional principles and receive the approval of the League of Nations. Up to 1926 this approval had not been obtained. The general responsibility for

Transjordan rests with the high commissioner for Palestine, who is represented in the country by an agent. The Emir in 1926 was Abdullah Ibu Hussein.

TRANSPORTATION. See RAILWAYS.

TRANVAAL. See SOUTH AFRICA, UNION OF.

TRANSYLVANIA. A portion of the Hungarian crownlands until taken over by Rumania in the latter half of 1918; formally annexed to Rumania by royal decree, Jan. 1, 1919. Area, 22,312 square miles; population, at the census of 1919, 2,678,367.

TRAVEL. See LITERATURE, ENGLISH AND AMERICAN.

TREATIES. See INTERNATIONAL LAW: ARBITRATION, INTERNATIONAL.

TRENTON, BATTLE OF. See CELEBRATIONS.

TRIESTE, tré-ést. A former crownland of Austria; occupied by Italy after the War, and retained by Italy under the peace settlement; including the port of Trieste and surrounding regions. Area, 37 square miles; population, at the census of Dec. 1, 1921, 238,655.

TRINIDAD. A West Indian island north of the mouth of the Orinoco River, constituting, with Tobago, a British colony. Area of Trinidad, 1862 square miles; of Tobago, 114; total population, according to the census of 1921, 365,913; estimated at the end of 1924, 381,753. Capital, Port of Spain, with a population in 1924 of 63,954. The white population is chiefly made up of French, British, Spanish, and Portuguese, while the majority of the natives are West Indians of African descent. East Indians in 1923 were estimated at 122,363. English is the prevailing language. In 1924 the movement of population was: Births, 12,791; deaths, 7609; marriages, 1406. In the same year there were 202 elementary (and 48 government) schools, with an enrollment of 56,985 pupils and an average daily attendance of 35,012. About 541,682 acres were under cultivation in 1924. A celebrated feature is the asphalt lake, the revenue from which in 1924 was £74,050. The petroleum industry is of prime importance, the output in 1924 being 141,981,420 imperial gallons of crude oil. There are a number of refineries and other plants for the manufacture of oil fuel, kerosene, etc. The imports in 1924 were valued at £4,287,943; exports, £4,893,863; revenue, £1,586,834; expenditure, £1,572,765; public debt, £3,406,753. The total shipping which entered and cleared in 1924 was 4023 vessels of 4,043,236 tons. On the island of Tobago, which is visited by considerable numbers of American and British tourists, the culture of rubber, tobacco, and cotton has been introduced. Trinidad is under a governor who is aided by an executive council and a legislative council. Governor in 1926, Sir Horace Archer Byatt.

TRINITY COLLEGE. An institution for the higher education of men at Hartford, Conn. For the fall term of 1926 the enrollment was 246, distributed as follows: graduate students, 8; seniors, 35; juniors, 51; sophomores, 68; freshmen, 74; non-matriculants, 10. There were 31 members on the faculty. The endowment fund of the college amounted to \$2,733,970, and the income for the year to \$214,000. Gifts received during the year amounted to about \$25,000. There were approximately 100,000 volumes and 40,000 pamphlets in the library. President, Remsen B. Ogilby, Litt.D., LL.D.

**TRINITY COLLEGE.** An institution at Durham, N. C., now a part of DUKE UNIVERSITY (q.v.).

**TRIPOLITANIA.** An Italian territory on the north coast of Africa; until 1919 a part of Italian Libya. In that year, for administrative purposes, Libya was divided into Tripolitania and Cyrenaica (q.v.). Area, estimated at 350,000 square miles; population, according to the census of 1921, about 550,000 natives and 20,716 Europeans, of whom 18,093 were Italians. The land is rather barren, but supports some palm, lemon, olive, and fig trees. The imports in 1924 were 198,672,038 lire; exports, 25,204,132 lire; colonial revenue for 1924-25, 146,841,000 lire; civil expenditure, 34,477,500 lire; military expenditure, 112,364,600 lire. The chief means of transportation is along caravan routes to the interior. There are also about 140 miles of railway. Tripoli, with a population of approximately 60,000, is the capital. Governor in 1926, General Emilio de Bono.

**TROTting.** See RACING.

**TRUCK FARMING.** See HORTICULTURE.

**TRUDELLITE.** See CHEMISTRY under *Mineralogical Chemistry*.

**TUBERCULOSIS.** A bulletin was issued by the United States Department of Commerce on October 5, showing the death rates from tuberculosis for 1924. It was accompanied by a comparative tabulation which incorporates the mortality for 1900, 1910 and 1920. This shows a steady decline in both the crude and adjusted rates, and for both sexes and all of the age periods. This table is so significant that it is reproduced intact herewith. The decline is not peculiar to the United States, but is also apparent in the vital statistics of England and Wales.

In the evolution of our knowledge of tuber-

culosis, it is necessary at times to take an account of stock. This was done by Prof. A. Schmincke of the pathological department of the University of Tübingen, in the *Muenchener Medizinische Wochenschrift* for July 25. The infinite variability of the manifestations of the disease make every case a law to itself, and before the practitioner can become oriented in the individual case much research will still be necessary. Tuberculosis follows the laws of infectious diseases in general, and after it has been contracted the entire organism participates at a very early period, as shown by studies in immunity. It is a most regrettable fact that a primary tuberculous deposit in the lungs is

peculiarly prone to infect the entire organism, while in certain localities, as the tonsil, conjunctiva, and middle ear, the tendency is for it to remain localized. In a majority of cases this pulmonary deposit goes back to early childhood, and so susceptible is mankind under these circumstances that a very few bacilli are sufficient to convey the disease. However, the organism makes a strong defense against the invader, and in fully 50 per cent the infected subjects form immune bodies which arrest the further extension of the disease, so that Nature may be said to have effected a successful vaccination of the patient against later invasions.

This 50 per cent which have been naturally immunized live out their normal expectancy of life, and are perhaps even better immunized against further tuberculosis than those who have never contracted the disease. The immunizing process may consist in part of hermetically sealing living bacilli in the original foci of the disease, by the formation of a fibrous capsule, the process requiring about six weeks. Although the bacillus is thereby rendered quite harmless for the time, it is possible that at some later period it may be set free and cause further mischief—for second infections do occur at times either from new invasion from without or mobilization of germs which lie quiescent in the body—which indicates that the protection from the act of immunization has expired.

The 50 per cent who do not develop complete immunity are still for the most part able to wage defensive war against the parasites, and the infinite variety of symptoms is an indication of the status of the struggle between the destructive and the defensive forces. In very rare cases in which the defense is impotent, death may result in a few days or weeks from some one of the manifestations of acute tuberculosis.

DEATH RATE FROM TUBERCULOSIS (ALL FORMS) PER 100,000 POPULATION IN THE REGISTRATION STATES OF 1900

Age period	1900		1910		1920		1924	
	Male	Female	Male	Female	Male	Female	Male	Female
All ages:								
Adjusted rate .....	194.4	182.8	173.5	141.2	114.5	101.7	89.7	77.2
Crude rate .....	201.9	188.5	184.0	146.2	121.8	103.7	95.4	78.0
Under 1 year .....	349.5	294.8	250.9	249.3	152.0	127.8	94.4	78.7
1 to 4 years .....	109.0	98.0	109.6	95.5	66.7	56.2	42.6	40.2
5 to 9 years .....	31.1	38.5	29.2	38.4	22.4	21.5	14.8	15.0
10 to 14 years .....	27.4	55.0	25.3	46.3	18.3	33.5	14.9	21.7
15 to 19 years .....	124.1	177.7	111.1	133.0	79.0	131.6	63.4	111.6
20 to 24 years .....	249.7	265.8	190.9	204.0	137.9	179.4	128.0	145.7
25 to 29 years .....	286.6	312.4	224.8	219.6	151.2	164.5	118.1	124.0
30 to 34 years .....	298.3	282.0	268.0	208.9	163.3	138.0	121.5	104.7
35 to 44 years .....	279.8	250.3	284.0	182.5	171.4	120.5	133.5	82.5
45 to 54 years .....	257.0	175.0	263.0	137.8	179.3	99.8	137.9	68.0
55 to 64 years .....	269.1	180.2	251.8	138.2	170.2	91.5	145.9	69.6
65 to 74 years .....	284.1	232.8	227.0	166.2	163.4	103.4	135.7	88.5
75 years and over .....	276.0	267.6	183.0	168.1	122.7	103.2	90.8	78.2

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#### TUBERCULOSIS ERADICATION, BOVINE. See VETERINARY MEDICINE.

**TUCK, SIR ADOLPH.** British art publisher, died in London, July 3. He was born Jan. 30, 1854, and was educated at the Elizabeth Gymnasium, Breslau, Germany. He entered his father's art publishing business in London in 1889, and he inaugurated the first of a series of original Christmas card designs exhibitions at the Dudley Gallery, with Sir Coutts Lindsay, John Everett Millais, R.A., and Marcus Stone, R.A., as judges, in 1879. He introduced picture postcards into the British Empire in 1894. He was the first baronet, the title having been created in 1910. At the time of his death he was

Chairman and Managing Director of Raphael Tuck and Sons Ltd., extraordinary director of the Scottish Equitable Life Assurance Society, and treasurer of the Jews' College.

**TUCKER, WILLIAM JEWETT.** President emeritus of Dartmouth College, died September 29, at Hanover, N. H. He was born at Griswold, Conn., July 13, 1839, and graduated from Dartmouth College in 1861. After graduation from Andover Theological Seminary and ordination in the Congregational Ministry he went to a charge at Manchester, N. H., and in 1876 he accepted a call to the Madison Square Presbyterian Church in New York, where he remained until 1880. He then returned to Andover, where in sympathy with the liberal movement in theology he developed religious teaching as a practical force. He advocated sociological training for his students, and he was a founder of Andover House in Boston, believed to be the first social settlement in New England. In 1875 he received the honorary degree of D.D. from Dartmouth College, and the same honor from Vermont University in 1904. The honorary degree of LL.D. was given him by Williams in 1893, by Yale in 1895, by the Wesleyan University in 1903, and by Columbia in 1906. In 1894 Dr. Tucker delivered the lectures of the Lowell Institute in Boston, and from 1899 to 1901 he was a University preacher of Harvard. In 1897 he was a lecturer of the Union Theological Seminary, and in 1897-98 he was Lyman Beecher Lecturer of the Yale Divinity School. From 1893 to 1909 he was President of Dartmouth College; under his charge the college grew rapidly. In 1909 Dr. Tucker resigned his active presidency of the College. He wrote much, his more important works being: *Liberty to Unity* (1892); *The Making and Unmaking of the Preacher* (1899); *Public Mindfulness and Personal Power* (1910); *The Function of the Church in Modern Society* (1911); *The New Reservation of Time* (1910); and an autobiography under the title of *My Generation*, published in 1919.

**TUFTS COLLEGE.** A non-sectarian co-educational institution at Tufts College, Medford, Mass.; founded in 1852. It is comprised of the school of liberal arts, Jackson College for women, the engineering school, School of Religion, Crane Foundation, and the medical and dental schools. The registration for the fall term of 1926 was 2207. There were 417 members on the faculty. The productive funds amounted to \$7,210,513.50, and the income for the educational departments for the year to \$746,318.75. The library contained about 90,000 volumes. President, John Albert Cousins, LL.D.

**TULANE UNIVERSITY OF LOUISIANA.** An institution of higher education, located at New Orleans, La., founded in 1834, and having a separate undergraduate department for women, though co-educational in the professional schools. The total enrollment for the fall term of 1926 was 2849, distributed as follows: college of arts and sciences, 518; college of engineering, 249; H. Sophie Newcomb college, 713; graduate school, 89; law, 83; medicine, 416; graduate medicine, 20; dentistry, 42; pharmacy, 30; commerce, 524; courses for teachers, 165. The registration for the summer school of 1926 was 1556. The faculty numbered 402. The productive funds for the fiscal year 1925-26 amounted to \$6,987,555.17, and the income for the year to \$935,009.

65. The value of grounds, buildings, and equipment was \$4,277,582.40. The number of volumes in the library was more than 112,000. During the year a Department of Journalism was established under the gift of the *Times-Picayune* of \$8000 per annum for ten years. A new concrete stadium was erected at a cost of approximately \$330,000, with a seating capacity of more than 25,000. Dr. Marcus Feingold bequeathed his ophthalmologic library to the University, and Judge Joseph A. Breaux bequeathed one-half of the residue of his estate to establish scholarships. At the end of the year the exact amount of the latter gift was not yet known. President, A. B. Dinwiddie, Ph.D., LL.D.

**TULAREMIA.** This new contagious disease was described in the YEAR BOOK for 1924. In the *Journal of the American Medical Association* for May 1, Francis, who first described the affection, announced its identity with a newly recognized malady of Japan known provisionally as Ohara's disease. The Japanese, who practiced medicine in Fukushima, published during 1925 an account of an acute febrile disease which is transmitted by wild rabbits. It was never known to occur before January, 1924, although special investigation seemed to show that it had existed in certain restricted areas for a score of years. It was apparently contracted from dressing the killed animals, and possibly also from eating the meat when insufficiently cooked. The virus of the disease enters through the skin of the fingers, judging from the initial swelling of the lymph nodes at the elbow and in the axilla. Although the fever was known to last a week or more and to reach at times 104° F, there were no fatalities and no serious complications. Mrs. Ohara, wife of the physician, volunteered to submit to an inoculation. Blood from a dead rabbit having been rubbed into the back of her hand, fever first appeared on the fourth day, after tenderness in the armpit, and lasted nine days. Blood serum from Japanese patients sent to Dr. Francis was found to agglutinate the American *Bacterium tularense*, and the latter was also recovered from tissue sent at the same time.

In an editorial entitled "Courageous Devotion of Scientific Investigators," in the *Journal of the American Medical Association* for December 11, it was announced that the United States Public Health Service has regarded tularemia as of sufficient importance to maintain a special laboratory, for the study of this affection, at Hamilton, Mont. Francis, of the Public Health Service, referring to numerous co-workers in widely separated States, calls attention to the fact that "tularemia is the only disease in man that has been elucidated from beginning to end by American investigators alone." Eighteen cases have occurred in laboratory workers engaged in its study, including entomologists who are investigating the ticks or insects which are believed to transmit the contagion. The editor is silent as to the occurrence of the disease in Japan (mentioned above) which seems to antagonize the statement of exclusive American discovery.

**TUNIS.** A French protectorate in North Africa, known as the Regency of Tunis; situated on the Mediterranean coast east of Algeria, bounded on the south by the Sahara and Libyan desert. The area is estimated at 48,300 square miles; population, according to the census of 1921, Europeans, 156,170, natives, 1,938,920. The

capital is the city of Tunis, with a population in 1921 of 171,672; other towns are Sfax, 27,921, and Bizerta, 20,763. In 1925 there were 405 public schools, including 8 lycees and colleges, and 32 private schools, of which 6 were Jewish schools provided by the government. The total number of pupils in the schools was 58,222. There are, besides, numerous Mohammedan schools, some of which are assisted by the state.

Agriculture is the principal industry, and the chief crops are wheat, barley, and oats. The soil is well adapted to fruit culture, and in the south dates are especially abundant. Olive trees abound in many parts of the country. The area under wheat in 1924 was 1,172,500 acres, production, 141,000 tons; barley, 754,395 acres, 55,000 tons; oats, 116,857 acres, 23,000 tons. There were 15,654,347 olive trees, the produce of which is about 30,500 tons of oil yearly. In the same year 1,034,251 date trees produced 79,295,286 pounds of dates. The livestock consisted of 71,608 horses; 122,435 asses; 21,427 mules; 333,955 cattle; 1,378,840 sheep; 797,970 goats; 119,366 camels; and 13,916 pigs. Among the native industries are spinning and weaving, pottery making, saddle making, etc. The mineral resources include lead, zinc, and iron ore, and especially phosphates.

Imports in 1925 totaled 1,086,270,800 francs (\$51,190,500) and exports 846,225,800 francs (\$30,943,400). The import figures in 1924 were \$49,306,300 and the exports \$30,943,400. The share of France in the total trade of Tunis amounted to about 57 per cent. The most important item of exportation from Tunis was phosphate fertilizers. Exports of other mineral products were satisfactory, with the exception of iron ore, which declined 12 per cent from the previous year. The exportation of olive oil was stimulated both by good local consumption and by insufficient yields in other producing countries.

The revenue for 1925 was £10,251,169 and the expenditure £10,238,787. The main sources of revenue were from direct and indirect taxes and from the tobacco and other monopolies. The chief expenditures were for the finance, public works and education departments. In 1924, 10,267 vessels entered the ports of Tunis. The railway mileage in the same year was 1586, of which 622 miles were broad gauge. The Bey of Tunis in 1926 was Sidi Mohamed, who succeeded July 10, 1922. The government, known as the Regency of Tunis, is under the French foreign office, which is represented by a resident-general. The administration is a mixture of French and native institutions. Resident-general in 1926, Lucien Saint, who was appointed Nov. 24, 1920.

**TUNNELS.** During the year progress was made on two important railway tunnels in the United States, while the Holland Tunnel for vehicles between New York and New Jersey was rapidly nearing completion. There were the usual number of tunnels for irrigation projects under construction, and subaqueous tunnels in connection with rapid transit or other projects. Some of the more notable construction of the year in this field is considered in the following paragraphs.

**MOFFAT TUNNEL.** At the end of the year the Moffat Tunnel, a rock tunnel six miles in length under the north shoulder of James Peak, Colo., 50 miles from Denver and piercing the Continen-

tal Divide at an elevation of 9200 feet, was rapidly nearing completion, the pioneer tunnel being 97 per cent finished, the main headings 91 per cent, and the full tunnel section 79 per cent. It was expected that the main headings would be holed through in March and the entire tunnel completed by the contract date, July 20, 1927. The excavation from the east end was in solid granite and progressed rapidly until February, 1926, when, after passing the summit, a heavy inrush of water delayed progress. On July 30 a fatal accident occurred in the head of the main tunnel, resulting in the death of six workmen engaged in erecting equipment for further advance. A huge block of rock crashed through the temporary timber support and staging without any warning to the crew working below. At the west end, work proceeded through shattered and seamy rock, requiring heavy timbering. This tunnel was financed by special assessment and leased to the Denver and Salt Lake Railway. See *YEAR BOOK* for 1922, 1923, 1924 and 1925, article, *Tunnels*.

**HOOSAC TUNNEL.** An interesting development was completed on November 27 when the Hoosac Tunnel at North Adams, Mass., on the Boston and Maine Railroad was opened for full operation on both east and west bound tracks after enlargement to permit passage of the biggest cars used on American railroads. The Hoosac Tunnel, which is five miles in length, was constructed between 1855 and 1874, and since that time the freight cars have almost doubled in maximum size. The new tunnel enlargement had been carried on during the year without interruption of traffic, in a space of 3 months 20 days, by working three shifts and confining both east bound and westbound traffic to a single track. This enlargement made it possible for the Hoosac Tunnel to accommodate cars with a maximum width at the eaves of 10 feet, 6 inches at a height of 14 feet above the rail. There is a maximum clearance of 16 feet, 3 inches between the top of the rail and the trolley wire. Some 40 trains a day were using this tunnel at the end of the year.

**HOLLAND TUNNEL.** The vehicular tunnel under the Hudson River between New York City and New Jersey was approximately 95 per cent completed at the end of the year. Progress on this project has been noted in previous issues of the *YEAR BOOK*, and the work had reached a stage where it was anticipated that it would be opened for public use some time in 1927. The tunnel consists of twin tubes of cast iron, 29 feet 6 inches exterior diameter, each tube accommodating two lines of vehicular traffic moving in the same direction, as well as a sidewalk for pedestrian use. The north tube accommodates the Jersey-bound traffic and has its entrance at Broome Street, Manhattan, between Hudson and Varick Streets and its exit at 14th and Provost Streets, Jersey City. New York-bound traffic is carried by the south tube having its entrance at 12th and Provost Streets, Jersey City, and its exit at the junction of Canal, Varick, and Vestry Streets, Manhattan. The total length of each tube is approximately 9250 feet, making the tunnel the longest, as well as the largest subaqueous vehicular tunnel in the world. Each roadway is 20 feet in width and the tunnel will have a roadway capacity equal to that of the Williamsburg Bridge across the East River. The estimated capacity of both tubes was placed

at 46,000 vehicles per day, or 15,000,000 vehicles per year.

The construction involved the excavation of 500,000 cubic yards of earth and the erection of 115,000 tons of cast-iron tunnel lining. The cost of the tunnel was to be amortized from the income obtained by charging tolls based upon the prevailing ferry rates. New York State paid for its share of the cost of construction by annual appropriations made by the Legislature, while New Jersey met its proportion of the cost by selling State bonds. The tunnel is ventilated by mechanical means and fresh air is forced into the tunnel roadway through its entire length by means of a continuous opening on either side of the roadway near the bottom, and the vitiated air is exhausted out of the top of the roadway through flues connected with the pierhead and land shafts into the outside atmosphere. The ventilating equipment, as projected, has a capacity of 3,600,000 cubic feet of fresh air every minute, so that adequate ventilation is secured.

**OAKLAND ESTUARY TUNNEL.** A tunnel or subway for street cars and vehicular traffic was started early in 1926 beneath the estuary dividing Oakland and Alameda, Calif. This tube, just under a mile in length, was constructed of precast concrete segments which were built in a drydock and floated to the estuary, where they were sunk and placed and joined by concrete to adjoining segments under water. Each of these segments, of which there were twelve, was 203 feet in length by about 40 feet in diameter and weighed 5000 tons. The contract called for the completion of the work in July, 1928, but by Dec. 1, 1926, 73.3 per cent had been completed in 52 per cent of the contract time.

**KANSAS CITY WATER TUNNEL.** In the heading of the 7½ foot tunnel under construction for the Kansas City Water Distribution System an explosion took place shortly after 5 A. M., September 15, resulting in the death of eight men, the entire shift working in the tunnel at this time. This tunnel was being built to bring water of the Kansas City Distribution System from the new filtration plant in North Kansas City and was 15,500 feet long, lined with concrete, and driven in shale and limestone, some 280 feet below the general ground surface. It passed beneath the Missouri River and across the bottom land to the filtration plant which was under construction in connection with the general project. At the time of the accident about 2000 feet of the tunnel had been concrete lined, and of the remaining 600 feet, some 300 feet was timbered because of poor roof. The accident occurred after repairs had been made to the ventilating apparatus and at a point some 2600 feet from the shaft. It was believed to be due to an explosion of natural gas, but it was impossible to determine the cause.

**OTHER PROJECTS.** During the year the Rove tunnel of the Marseilles-Rhône canal was completed and put in use. See **CANALS**. For the tunnel under the Shimonoseki Straits in Japan, see **JAPAN, Communications**.

**TURBINE, STEAM.** See **STEAM TURBINES**.

**TURKESTAN**, tur'kē-stān'. An autonomous republic in Central Asia, forming a part of the Union of Soviet Socialist Republics; comprising the provinces of Samarkand, Ferghana, Syrdarya, and Semirychiensk. Area, 571,630

square miles; population, according to the census of 1923, 7,201,551, of which 6,130,400 were rural and 1,071,151 urban. Chief towns with their latest available populations: Tashkent (the capital), 271,650; Omsk, 129,442; Kokand, 113,700. The name "Turkestan" is also applied to a dependency of China lying north of Tibet and forming a part of Sin-Kiang or the New Dominion.

**TURKEY.** A republic since Oct. 29, 1923; formerly the Ottoman Empire; occupying a portion of the Balkan peninsula (Turkey in Europe) and a large part of Asia Minor with contiguous territory (Turkey in Asia); since the Treaty of Lausanne, July 24, 1923, comprising in Asia Minor the territory lying within the Caucasian frontier, the northern part of the old Turco-Persian frontier, the frontier between Turkey and Syria extending from Jizira-ibn-Omar on the Tigris to a point near Payas on the Gulf of Alexandretta, and the so-called "Brussels" line between Turkey and Mesopotamia (q.v.); in Europe, Constantinople and eastern Thrace, according to boundaries fixed in the treaty; and, in the Mediterranean Sea, Imbros, Tenedos, and Rabbit Islands. The Grand National Assembly on Oct. 13, 1923, declared Angora to be the capital.

**AREA AND POPULATION.** The area of the present republic of Turkey is estimated at approximately 494,538 square miles. The ministry of health placed the population at 13,357,000 at the end of 1924, but many competent observers declare this figure to be entirely too high, placing the total at about 10,000,000. No census has been taken by the new government. In Turkish returns published early in 1924, the population of the principal cities was given as follows: Constantinople, 880,998; Smyrna, 98,846; Konia, 71,104; Brussa, 64,664; and Adana, 64,110. The population of Angora was given as 35,000.

**EDUCATION.** The schools are directly in charge of the ministry of education, and elementary education is compulsory. The tendency in the republic is to abolish parochial schools and to replace them with government schools. Thus, in 1924, the numerous Moslem schools were closed by order of the government. The government schools comprise primary grades, secondary schools, training schools for teachers, and the university at Constantinople. No statistics on education matters were available for the year.

**PRODUCTION.** The chief pursuit is agriculture; although the soil is very fertile for the most part, the methods of agriculture are very primitive. Among the principal products are tobacco, cereals, mohair, figs, silk, olives, and olive oil, various fruits and nuts, timber and forest products, wool, furs, skins and hides, canary seed, linseed, and sesame. About 21,000,000 acres are under forests, of which acreage about 88 per cent belongs to the state. The fisheries are an important source of income. The mineral resources are rich, but undeveloped. Among the metals worked are chrome ores, silver, zinc, borax, manganese ore, antimony, copper ore, salt, iron, etc. The mineral products include meerschau, asphalt, lignite, mercury, and arsenic. Manufactures are in a primitive stage, and include woolen yarn and cotton spinning.

**COMMERCE.** The following tables supplied by the United States Bureau of Foreign and Domestic Commerce give the latest available information for Turkish trade:

VALUE OF LEADING COMMODITIES IN  
TURKEY'S FOREIGN TRADE  
[In thousand Turkish pounds]

Commodity	1924	1925 (8 months)
<b>Exports</b>		
Tobacco and tobacc	38,784	33,910
Fruits and vegetables	38,316	12,775
Wool and manufactures	13,150	7,069
Cotton and cotton goods	10,465	9,690
Colors, dyes, chemicals, etc.	9,286	6,580
Animal produce and fish	5,584	4,772
Cereals, etc.	5,899	3,211
All others	42,884	29,322
<b>Total</b>	<b>158,868</b>	<b>107,329</b>
<b>Imports</b>		
Cotton and cotton goods	63,572	46,454
Cereals, leguminous and farinaceous preparations	23,008	18,674
Provisions, sugar, and confectionery	17,852	13,723
Metals	16,168	14,497
Wool and manufactures	13,204	9,526
Mineral oils and greases	7,204	5,774
Machinery	6,839	5,518
All others	45,964	41,032
<b>Total</b>	<b>198,611</b>	<b>155,198</b>

GEOGRAPHIC DISTRIBUTION OF TURKEY'S  
FOREIGN TRADE  
[In million Turkish pounds]

Country of origin and of destination	1924			1925 (8 months)		
	Im-ports	Ex-ports	Total	Im-ports	Ex-ports	Total
Italy	41.0	34.9	75.9	26.8	32.9	59.7
United Kingdom	34.3	23.3	57.6	25.0	7.7	32.7
Germany	19.2	20.5	39.7	17.7	15.8	33.5
France	18.3	18.8	37.1	16.0	13.5	29.5
United States	11.4	16.4	27.8	15.9	9.0	24.9
Other countries	69.4	45.0	114.4	53.8	28.4	82.2
<b>Total</b>	<b>193.6</b>	<b>158.9</b>	<b>352.5</b>	<b>155.2</b>	<b>107.3</b>	<b>262.5</b>

FINANCE. The following table, from the *Statesman's Year Book* for 1926, gives the principal items of revenue and expenditure for the fiscal year 1926-27:

Revenue		£T
Direct taxes		67,714,478
Stamp and registration		7,666,000
Customs and spirit taxes		55,838,000
Monopolies		41,786,980
State industries		2,006,000
State lands and forests		10,877,433
Consumption taxes		20,040,000
Miscellaneous		12,886,854
<b>Total</b>		<b>218,315,245</b>
Expenditure		£T
National defense		80,000,000
Finance and Pensions		27,632,395
Public works		25,000,000
Gendarmerie		12,899,000
Debt		14,437,019
Education		7,806,483
Customs		7,032,911
Justice		7,013,722
Interior		6,234,007
Agriculture		6,003,608
Health		6,005,200
Marine		6,000,000
Posts		6,000,000
Public security		4,880,000
Commerce		4,000,000
Other items		13,417,585
<b>Total</b>		<b>233,361,930</b>

COMMUNICATIONS. At the beginning of 1925 there were 139 merchant vessels under the Turk-

ish flag, with a tonnage of 129,443. The length of the railways in January, 1926, was approximately 2173 miles. It was reported in August that 18 tunnels and 33 bridges had been constructed on the 15-kilometer stretch of the Samsun-Sivas Railroad in Asiatic Turkey now open to freight and passenger traffic. Work had also advanced considerably on the construction of the 16 additional tunnels on the stretch between the 15th and 170th kilometer; the cost of grading and laying the rails on this stretch was estimated at approximately \$1,350,000. There still remained to be constructed a distance of 220 kilometers to Samsun; but since the country to be traversed was much less rough than that through which the line has already been constructed, the average expenditure per kilometer will be considerably lower, it was believed, for the rest of the line.

GOVERNMENT. As a result of the revision of the constitution in April, 1924, the Turkish state was declared to be a republic; the religion, Islam; the official language, Turkish; and the capital, Angora. The assembly was to be elected every four years; while, according to article 7, the assembly exercises the executive power through the president of the republic elected by itself and through the council of ministers chosen by him, there is a proviso that the Assembly may at any time control the actions of the government and at any time dismiss it. The president of the republic was to be chosen from among the deputies constituting the national assembly, and his term of office was to be identical with the life of each assembly. He is *ipso facto* president of the assembly and also, in case of necessity, of the council of ministers. He may, however, take no part in the debates of the assembly, nor has he absolute powers to veto legislation or to dissolve the assembly. President in 1926, Mustafa Kemal Pasha. The cabinet which was formed on Mar. 4, 1925, was constituted as follows in 1926: President of the council, Ismet Pasha; interior, Jemil Bey; finance, Hassan Bey; public works, Behij Bey; foreign affairs, Tewfik Rushdi Bey; justice, Mahmud Essad Bey; public instruction, Nejati Bey; public health, Dr. Refik Bey; commerce, Ali Jenani Bey; agriculture, Sabri Bey; marine, Ihson Bey; national defense, Resheb Bey.

HISTORY. For an account of the settlement of the Mosul boundary dispute, see the historical section of MESOPOTAMIA and the article on the LEAGUE OF NATIONS.

Throughout the year there were several instances of the continued westernizing of the Turkish republic, such as the adoption of the Gregorian calendar, of the Swiss civil code, and of the twenty-four-hour day beginning at midnight. There were, in some quarters, serious objections to these modernistic tendencies, but the government pressed them assiduously, and, if some reports can be believed, actually imprisoned or put to death those who failed to conform to the new fashions.

In June there were reports in the press that a serious attempt on the life of Mustafa Kemal Pasha had been unearthed in Smyrna. It was laid at the door of the Progressive Party, which was known to oppose Kemal and his virtual dictatorship over the country. The conspirators were arrested, and fifteen persons, including six members of the Turkish parliament, were sentenced to death. It appeared to outside observers



that the punishment of the men involved were entirely too severe and was dictated largely from political motives. In many cases the court exacted far more severe sentences than the prosecuting attorney asked. Towards the close of the year, reports were rife that the government was going to make overtures to the opposition party with a view to reaching and maintaining political peace.

**TUSKEGEE NORMAL AND INDUSTRIAL INSTITUTE.** A non-sectarian co-educational normal and industrial school for the higher education of negroes, at Tuskegee, Ala.; founded in 1881 by Booker T. Washington. The enrollment for the autumn of 1926 was 1695, of whom 695 were women. The summer session had a registration of 907 students. There were 246 members on the faculty, 136 men and 110 women. The endowment fund amounted to \$5,849,398.77, and the income for the year to \$408,877.69. There were 28,000 volumes in the library. President, Robert Russa Moton, LL.D.

**TUTANKHAMEN TOMB.** See ARCHÆOLOGOGY.

**TUTUILA.** See SAMOA.

**TYPHOID FEVER.** In the *Weekly Bulletin* of the Department of Health, City of New York, for September 11, was related an episode which illuminates the rôle of the carrier in keeping alive an infectious disease which might otherwise be exterminated by control of the water supply and by other simple measures. In 1899, a woman who is now a grandmother took care of a sister who died of typhoid fever, although from that time on there was no further evidence of the disease in the family, until the present episode. The woman, believed to have harbored the disease germs without ever having taken the infection, had recently visited one of her granddaughters to help with the care of a new habitation. This granddaughter, now 25 years old, contracted typhoid after the return of the grandmother, and succumbed to the disease. The grandmother's home was visited, and the old lady was found to be a germ carrier, although the well water was not infected. The newly occupied residence of the granddaughter was pronounced sanitary, and the water and milk supplies were found intact. All of the members of the family were found free from the bacillus. The exact route through which the virus passed from the grandmother to the granddaughter could not be traced, but from all that is known of carriers there is little room for doubting that this transmission did actually take place through the common use of household implements.

**TYPHUS FEVER.** In an article by Dr. J. W. Tappan, of the United States Public Health Service, on the protective health measures in use at the United States-Mexico border (*Journal of the American Medical Association*, Sept. 25, 1926) considerable space was given to typhus fever, which has been endemic in Mexico since the Spanish conquest and will sift into the United States whenever an epidemic is of sufficient magnitude to cross the border. The mild form known as Brill's disease had been prevalent in the lower Rio Grande valley in Texas for the previous three years. It is a summer disease, not seeming to spread exclusively by louse infestation, and the mode of propagation does not appear to be known. Sporadic typhus now and then appears along the border in cities west of Laredo, Tex., but there has been no true epidem-

ic of virulent typhus since the conquest of the outbreak of 1915-7. This was not a serious visitation, for there were only 150 cases all told, and but 10 were in citizens of the United States, but it required the united efforts of Federal, State, county and city health officials to suppress it, and it might have proved disastrous under less favorable conditions. Several years previously, the United States took over the border quarantine, and has done splendid work in all directions.

**TYROL, tē-rōl'.** A crownland of Austria before the collapse of the Austro-Hungarian Empire; situated in the Alps; after the War it was divided between Italy and the new Republic of Austria. The former received the southern portion and the latter the northern. Total area before the war, 10,302 square miles; population, 946,613. Area of the Austrian province, 4882 square miles; population, according to the census of 1923, 314,836. For a discussion of the alleged Italianizing of Tyrol, see historical sections of articles on ITALY and AUSTRIA.

**UBANGI-SHARI.** See FRENCH EQUATORIAL AFRICA.

**UGANDA, ō-gān'dā, PROTECTORATE.** A protectorate of Great Britain in East Africa; lying north of Tanganyika. For administrative purposes it is divided into five provinces; namely, Eastern Province, Rudolph Province, Northern Province, Western Province, and Buganda. Area, 110,300 square miles; population, estimated in December, 1924, 3,145,449, composed of 3,136,769 natives, 7229 Asiatics, and 1451 Europeans. About 640,000 of the natives belong to the civilized Baganda, a race converted to Christianity.

The chief product is cotton, which is grown almost entirely by the natives on an area estimated at 572,800 acres in 1924. The other products include cacao, oil seeds, coffee, and para rubber. The total exports for 1924 were £3,897,000, mainly cotton (£3,487,000). The import figures are not available because they are merged with those of Kenya (q.v.). The estimated revenue in 1925 was £1,226,102; expenditure, £1,226,102. There is a railway, 62 miles in length, from Jinja to Namasagali on the Nile; another road about 8 miles in length connects Port Bell and Kampala. During the year, a line from Mbulamuti, to connect with the Uganda railway, was under construction. With the exception of Rudolph Province, the protectorate is directly under the British government, represented by a governor and commander-in-chief, but the native rulers are supported in the management of their own subjects. Governor and commander-in-chief in 1926, Sir W. F. Gowers.

**U'KRAINE.** A region known officially as the Ukrainian Socialist Soviet Republic; including the autonomous Moldavian Socialist Soviet Republic (formed in September, 1924) and the following provinces of the former Russian Empire: Kharkoff, Poltava, Chernigov, Kiev, Volhynia, Ekaterinoslav, Odessa, Nikolaiev, Kremenchnug, Donetsk, Zhitomir, and Podolia. Area, 174,510 square miles; population, 21,252,000. Capital, Kiev, with a population, in 1923, of 403,730. The great bulk of the population adheres to the Ukrainian Orthodox Church. In 1924 there were 1723 primary schools, with 10,202 teachers and 198,235 pupils. The soil is fertile, and the chief products are wheat, rye, oats, beets, tobacco, corn, and potatoes. In 1925 there were 4,100,000



horses, 8,000,000 cattle, 9,300,000 sheep, and 3,600,000 pigs. In 1924-25 the budget balanced at 63,508,000 gold rubles. There are approximately 11,070 miles of railways in Ukraine, about two-thirds of which are state-owned; about 2500 miles were reported under construction. The government of Ukraine is modeled on that of Russia (q.v.). At the head of the administration is a council of people's commissars. Chairman of the council in 1926, M. Chubar.

**UNEMPLOYMENT.** According to the report of the Secretary of Labor, 1,791,381 persons were directed to employment through the United States Employment Service during the fiscal year 1926. The Federal service acts as a clearing house for the public employment services of the several States and municipalities. It makes a small financial allotment, provides the registration forms and extends the aid of the franked envelope to these bureaus.

The Secretary of Labor wrote that at the time the report was being prepared employment in the United States was on a satisfactory basis. "The iron and steel industries," he said, "are on an 80 to 85 per cent basis; the automotive industry is employing practically full forces; and a general improvement is registered in the metal and machinery industries, with over-time employment in some parts of the country. A greater volume of employment is noted in metalliferous mining. . . . The rubber industry is on a peak employment basis. Considerable unemployment is noted in the textile and shoe industries and bituminous coal mining, while full employment exists in the anthracite fields. Viewing the country as a whole, building construction craftsmen are on a satisfactory employment basis."

In the closing months of the year an improvement was noticeable in the soft-coal industry on account of the incidental effects of the British coal strike, which provided new markets for about 15,000,000 tons of American coal. (See 'COAL.') On the other hand, there was much broken time in the automotive industries at the close of the year, and there was also a slight let-up in the building industries. The previous bonuses for building workers were ended, and instead there were partial lay-offs of such men.

These general findings were largely confirmed by the statistical studies and estimates published by the Bureau of Labor Statistics. Below is reproduced the general index of employment and wages, prepared by this bureau. From this table it is to be noted that both the employment index and the pay-roll totals for 1926 were slightly higher than for 1925.

**STABILIZATION OF EMPLOYMENT.** The five-day week introduced by Henry Ford in his plants was taken up by the American Federation of Labor at its convention in Detroit. A survey by the *Monthly Labor Review* showed that the five-day week was already prevalent in certain industries, having been introduced gradually through collective negotiations, without loss of wages. The advantages of the five-day week are two-fold. In the first place, it prevents overproduction of goods, and in the second place, it gives the worker a greater opportunity for purchasing goods—this in turn preventing industrial stagnation. This is to omit, of course, the intangible, human benefits of the increased leisure, the economic incidence of which cannot be calculated.

Curiously enough, a survey made in England (as reported in the *Monthly Labor Review*) showed that in addition to the great unemployment in that country, there was a large amount of five-day employment. The chief difference to be noted in the application of the five-day week in England and in the United States is that in the former country it is equivalent to part-time employment, while in America it involves the acceptance of a higher economic standard. Consequently, the five-day week does not have the same effect in England as it has in America, upon economic prosperity.

A study on *Stabilization of Employment* by J. R. Bellerby was brought out this year by the International Labor Office. The author devoted a great deal of comment to the situation in the United States. Characterizing as quite "empirical" the numerous attempts by individual industrial units to deal with the unemployment problem, he sees a great deal of promise in the method of the Federal Reserve System to control credit against over-production. He makes the suggestion that "the evolution of forecasting indexes offers a most fruitful line of progress, for it would allow of prompter and more effective application of the remedies available."

As regards the more direct control of the employment problem, Mr. Bellerby predicted: "The responsibility of the individual worker for his own welfare will be assumed collectively through the medium of the trade union. The responsibility of the community will be born largely by the employer. Working together, these two groups will set up insurance schemes of a very diverse nature. Their joint attempts may at some future date be supplemented by the States or Federal government, by means of additional inducements to set up schemes. There seems no immediate likelihood of public authorities pro-

GENERAL INDEX OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, JANUARY, 1923, TO NOVEMBER, 1926  
[Monthly Average, 1923 = 100]

Month	Employment					Pay-roll totals				
	1923	1924	1925	1926	1923	1924	1925	1926	1923	1926
January	98.0	95.4	90.0	92.8	91.8	94.5	90.0	93.9		
February	99.6	96.6	91.6	93.3	95.2	99.4	95.1	97.9		
March	101.8	96.4	92.4	93.7	100.3	99.0	96.6	99.1		
April	101.8	94.5	92.1	92.8	101.3	96.9	94.2	97.2		
May	101.8	90.8	90.9	91.7	104.8	92.4	94.4	95.6		
June	101.9	87.9	90.1	91.3	104.7	87.0	91.7	95.5		
July	100.4	84.8	89.3	89.8	99.9	80.8	89.6	91.2		
August	99.7	85.0	89.9	90.7	99.3	88.5	91.4	94.6		
September	99.8	86.7	90.3	92.2	100.0	86.0	90.4	95.1		
October	99.3	87.9	92.3	92.5	102.3	88.5	96.2	98.6		
November	98.7	87.8	92.5	91.4	101.0	87.6	96.2	95.4		
December	96.9	89.4	92.6	...	98.9	91.7	97.3	...		
Average	100.0	90.3	91.2	92.0 *	100.0	90.6	93.6	95.8 *		

\* Average for 11 months.

viding the organization or administrative machinery for unemployment insurance on a general scale."

**UNION COLLEGE.** A non-sectarian college for men at Schenectady, N. Y.; founded in 1795. The 1926 fall enrollment of regular students totaled 757, distributed as follows: academic, 492; electrical engineering, 78; civil engineering, 146; chemical, 26; physical, 15. In addition there were 94 graduate students, and 141 enrolled in extension courses. There were 74 members in the faculty. The productive funds amounted to \$3,015,714.27, and the income for the year was \$605,209.65. During the year 1925-26 the funds of the college were increased by \$91,677.32. In 1926 a physics laboratory and a biology laboratory were erected, and an arts building, to cost \$150,000, was in process of construction. The library contained 63,000 volumes. President, Charles Alexander Richmond, D.D., LL.D.

**UNITARIAN CHURCH.** A denomination believing in one God in one person, and consequently, in the purely human personality of Jesus. Unitarianism as a type of belief is ancient. The Unitarian Church in the United States developed as a modification of Congregationalism in New England, which led to the formation of the American Unitarian Association in 1825. This association is the executive organization of the Unitarian churches to-day. Each church is an independent congregation, and the denomination requires no adherence to a formal creed in its worshippers, and no profession of a particular doctrine in its ministers.

The one-hundred and first annual meeting of the American Unitarian Association was held at Tremont Temple, Boston, Mass., May 25, 1926. On Jan. 1, 1926, the denomination had 422 churches, 376 of which were active. The Unitarian constituency was reported to number 125,336. There were 3193 Sunday school officers and teachers, and 20,717 pupils. Receipts for current church activities, as presented in the treasurer's statement for 1926, amounted to \$722,148.11. General denominational work is carried on by departments, of which the chief are those of publication, religious education, church education, new Americans, foreign relations, and recruiting the ministry. The church sponsors three theological seminaries: Harvard Divinity School; Meadville Theological School, Meadville, Pa.; and Pacific Unitarian School for the Ministry, Berkeley, Cal. Missionary work of the Department of New Americans was carried on among American citizens and residents of Icelandic, Finnish, Norwegian, and Hungarian origin, in particular. The Department of Foreign Relations kept in communication with groups holding similar beliefs in other parts of the world. Denominational publications are: *The Christian Register* (weekly); *The Beacon* (weekly); *The Pacific Unitarian* (monthly); and the *Unitarian Word and Work* (monthly). *The Association* has its headquarters at 16 Beacon Street, Boston, Mass. Its president in 1926 was Samuel A. Eliot; its secretary, Parker C. Marean; treasurer, Henry H. Fuller.

**UNITED BRETHREN IN CHRIST.** A denomination which resulted from the religious awakening of Philip William Otterbein, Martin Boehm, and their co-workers. The church had its beginning at a "great meeting" held about 1766 in the Isaac Long barn near Lancaster, Penn.

The first conference was held in Baltimore, Md., in 1789, and the church was formally organized in Frederick County, Md., in 1800. Its theology is Arminian, and baptism is administered by any mode desired by the applicant, while its beliefs are those of the other evangelical denominations. The church is divided into 35 conferences, including those in China, Japan, the Philippines, Porto Rico, and West Africa. In 1926 there were 3201 organized churches, 1672 itinerant ministers and 398,150 church members, representing an increase of 3890 members over 1925. Sunday Schools, 2989 in number, had an enrollment of 447,402. The amount raised by the church for all purposes in 1926 was \$6,860,812. Home and foreign missionaries numbering approximately 150 were maintained by a conference missionary appropriation of \$102,565 and a General Home Missionary appropriation of \$178,421. The church maintains the following educational institutions: Bonebrake Theological Seminary, Dayton, Ohio; Otterbein College, Westerville, Ohio; Lebanon Valley College, Annville, Pa.; Indiana Central College, Indianapolis, Ind.; York College, York, Neb.; Kansas City University, Kansas City, Kan.; Philomath College, Philomath, Ore.; and Shenandoah College, Dayton, Virginia. Homes and orphanages are the Otterbein Home at Lebanon, Ohio; Quincy Orphanage, Quincy, Pa.; and the Baker Home at Puente, Calif. The printing establishment and headquarters of the church are located at Dayton, Ohio. *The Religious Telescope* is the official paper of the church, and *The Watchword* the young people's paper.

**UNITED CHURCH OF CANADA.** See CANADA, UNITED CHURCH OF.

**UNITED METHODIST CHURCH.** See METHODISTS, WESLEYAN.

**UNITED PRESBYTERIAN CHURCH.** See PRESBYTERIAN CHURCH, UNITED.

**UNITED STATES. AREA AND POPULATION.** The area of the United States, exclusive of Alaska, is 3,026,789 square miles. The area of the non-contiguous lands, which include Alaska, Guam, and certain Pacific islands, Hawaii, the Panama Canal Zone, the Philippine Islands, Porto Rico, American Samoa, and the Virgin Islands (American), is 711,582 square miles, making a total area of 3,738,371 square miles. The estimated population of the United States on July 1, 1926, was 117,136,000. The population, according to the census of 1920, was 106,418,175. This does not include the population of the territorial possessions.

**AGRICULTURE.** Agriculture as a whole attained moderate further improvement, considering its unsatisfactory economic condition, according to the annual report of Secretary of Agriculture W. M. Jardine, which commented on results for the farm year 1926. The most notable exception was that of the cotton producers, whose very heavy crop, the largest on record, brought about a profound depression of current prices. Spring wheat yielded a short crop throughout a great portion of its area, and the quantity deficiency was not alleviated by appreciation of the wheat price, the price being kept down by large winter-wheat production.

The livestock raisers, dairymen and winter-wheat growers were ranked as having fared well, among the larger agricultural groups. The corn belt was ranked as less well off, but as having made some gain toward prosperity. The

Secretary estimated the net income of the agricultural industry of the country for the year at \$2,757,000,000. The rapid growth of agricultural cooperative marketing associations was noted in the report, which placed at 2,700,000 the number of producers holding membership in associations of this description reporting to the Department of Agriculture at the end of 1925. After elimination of duplications, the number of members of cooperative societies was estimated at 2,000,000, or more than treble that in 1915. Sales of the cooperatives had likewise trebled, attaining, in 1925, \$2,400,000,000. A movement of 2,035,000 persons from farms in 1925 was estimated, and the movement of persons in the reverse direction was placed much lower, at 1,135,000.

The Federal Farm Loan Board took action October 7 to help the cooperative financing of storage of excess cotton of the 1926 crop, by offering to extend credit to the amount of \$30,000,000 for this purpose to cotton cooperative financing societies in the cotton states. This proceeding was rendered needful by the production of a crop far greater than any of its predecessors; it was stated at 16,027,000 bales according to the October estimate of the Department of Agriculture, but these figures later were much increased. A cotton committee previously named by President Coolidge to take measures to avert a collapse of cotton prices announced, October 19, its programme to establish and aid financing corporations in each cotton State, to carry among them the estimated 4,000,000 bales of excess cotton until marketable at a higher price.

For statistical and other further data on agriculture in the United States and its dependencies, see the article AGRICULTURE. Important crops are treated in the separate articles CORN, COTTON, WHEAT, etc. See also articles such as AGRICULTURE, U. S. DEPARTMENT OF; AGRICULTURAL EXPERIMENT STATIONS; AGRICULTURAL EXTENSION WORK; DAIRYING; FERTILIZERS; FOOD AND NUTRITION; HORTICULTURE; LIVESTOCK; SOILS; VETERINARY MEDICINE; FORESTRY; RECLAMATION. In the articles on individual States are presented the acreage, production and value of their more important crops in 1925 and 1926.

INDUSTRY AND COMMERCE. The year 1926 was marked by prevailingly favorable developments in industry and trade. While the prices of commodities moved mainly downward through the greater part of the year, and in many cases stood distinctly lower at its close than at its opening, the volume of industrial production as a whole and the volume of retail selling were so great and so well maintained as to cause business to prosper in the main, in spite of these downward price trends. The high level of consumption that accounted for the volume of sales was attributed to an exceptionally high wage level that was broadly disseminated. Geographically speaking, employment was most general in the Middle Atlantic, East Central and a portion of the Pacific Coast region. In the industrial areas of New England, in Florida, in the Southern cotton region and in the agricultural Northwest, special conditions rendered the state of employment less satisfactory. The New England textile industry found continued difficulty in meeting the competition of other areas provided with cheap power, freights and labor

markets; but, as the year closed, the decline in raw cotton stimulated cotton textile activity in New England. Continuing insufficiency of farm revenues, prolonged by a mediocre spring wheat crop, worked as a handicap in the Northwest. In Florida a halting of the rapid previous development of home building, of resorts, of agricultural lands and of town sites, led to hesitation and to some interruption of development. The embarrassment of a record cotton crop of more than 18,000,000 bales caused a drop in the price of the staple so great—by comparison with the price for the crop of 1925—as to occasion a considerable falling off in the total sale value, at going prices of the 1926 crop, as compared with that of its smaller predecessor. At the same time a considerable total of Southern credit that would otherwise have been available for other uses was diverted to the purpose of financing crop storage.

Conspicuously prosperous were a number of the so-called "key industries." The termination of the anthracite strike in Pennsylvania early in the year was followed by resumed production on a heavy scale and at profitable prices. The automobile industry, though some doubt had been felt that it could continue at the rate set in 1925, none the less made remarkable strides, both in production and in the marketing of its product, throughout the greater part of the year. The steel industry, from a good start, became increasingly active in July and succeeding months, well into the autumn. The suspension of the British coal output by reason of a nation-wide coal strike created an export demand for the coal of the bituminous mines of the Eastern bituminous coal mining States, and there resulted a period of exceptional production of bituminous coal, accompanied by high prices, which lasted till the termination of the British strike at the end of November.

The building trade, after a long period of activity, showed evidences, as the year drew to a close, of having about caught up with demand, in many respects. The failure of an important firm of real estate mortgage bond bankers, G. L. Miller and Co., in September, drew attention to the view of critics that the business of marketing and administering mortgage-bond investments required in some instances a more conservative handling. This tended to slacken somewhat the pace of enterprises in the building field. The situation of the markets for lumber and for some other products used in construction was affected.

The mail-order, chain-store and ten-cent store enterprises, among the more recent commercial developments, continued to prosper. The habit of hand-to-mouth buying on the part of merchants persisted as a conspicuous element of the mercantile situation. The likewise recent development of installment selling at retail continued to expand, and was the subject of much and diverse comment. Railroads carried in most cases an exceptionally great amount of traffic, the volume of their revenue making up for increased labor costs, and rendering their year in most cases a prosperous one. Money was lent at moderate rates throughout the year. Investment demand absorbed an unusually large total of new securities, and, in particular, new investment in foreign securities was estimated to have aggregated in the course of the year about \$1,900,000,000. See FINANCIAL REVIEW; RAILWAYS.

**FOREIGN TRADE.** The calendar year 1926 was the fourth year of consecutive increase in the country's total foreign trade, and likewise in its merchandise imports, as measured by value. The exports scored a slight decline, as measured by the same means, falling about 2 per cent below those of the year previous. This decline resulted in the main from a fall in the export price of raw cotton. According to a computation made in the Department of Commerce, had the quantity of cotton shipped out of the country in 1926 fetched the same average price as the cotton exportations of 1925, the country's export value total for 1926 would have exceeded that for 1925 by about 4 per cent.

Merchandise export value total was, in 1926, approximately \$4,808,000,000, according to the Department of Commerce; in 1925, \$4,910,000,000. Imports of merchandise in 1926 attained in round numbers to a total of \$4,431,000,000; in 1925, \$4,227,000,000. The excess of merchandise exports over merchandise imports diminished noticeably for 1926, as compared with the year previous, being, for 1926, \$378,000,000; for 1925, it was \$683,000,000. The decline was yet more conspicuous as compared with the calendar year 1924, when the export excess attained \$981,000,000. While increases of quantity prevailed in most kinds of merchandise exported in 1926, as against corresponding quantities for 1925, export prices were reported as having decreased about 8 per cent, on the average.

respective proportions of the annual import totals, was not maintained in 1926. On the contrary, the ratio of crude materials fell off slightly, in part as a result of lower prices for silk and wool.

Among the articles of export, coal achieved the largest individual increase among the larger items. The activity in coal exportation in 1926 was occasioned by the prolonged coal strike in England, which brought to America a demand, both from Latin America and from European points, for quantities of coal normally supplied by the British mines.

**Distribution of Export Trade.** Data on the exports of different regions for 1925 placed New York State in the lead, with shipments to foreign countries of goods valued at \$810,416,054. Texas, previously leader in this respect on account of large oil shipments, exported goods to a value of \$758,665,052; foreign shipments from Pennsylvania were in total value \$302,869,783; those from Louisiana, \$265,891,941; from California, \$248,235,719; from Michigan, \$247,210,727.

**SHIPPING.** For statistics and other information in respect to the shipping of the United States during the year, see articles SHIPPING and SHIPBUILDING.

**MANUFACTURES.** All the leading manufacturing industries are discussed under separate articles, such as AUTOMOBILES; BOOTS AND SHOES; IRON AND STEEL; PAPER; RUBBER; SILK; TEX-

**FOREIGN TRADE OF THE UNITED STATES**  
(In thousands of dollars)

Merchandise:	Calendar years			
	1910-14 *	1924	1925	1926
Exports .....	2,166,000	4,590,984	4,909,848	4,808,465
Imports .....	1,689,000	3,609,962	4,226,589	4,430,890
Excess of exports .....	477,000	981,022	683,259	377,575
Gold:				
Exports .....	.....	61,648	262,640	115,708
Imports .....	.....	319,721	128,273	218,504
Excess of exports (+) of imports(-) .....	.....	- 258,073	+ 134,367	- 97,796
Silver:				
Exports .....	.....	109,891	99,128	92,257
Imports .....	.....	78,945	64,596	69,596
Excess of exports .....	.....	35,946	34,532	22,661

\* Average for fiscal years.

The decline in the value total of crude materials and of manufactured foodstuffs was the chief element in the decline of the total for all merchandise exported; the decline in the case of crude materials was 11 per cent of their value total for the year previous. The decline in the manufactured foodstuff export value total was 12 per cent; this decline was laid to smaller shipments of refined sugar and to diminished exportation of packing-house products. The group of goods classed as semi-manufactured made a small decline in export value total. Finished manufactures, on the other hand, exceeded the export total of the year previous by about 6 per cent.

Imports increased in value, as compared with those for 1925, in all the economic classes of merchandise except that of manufactured foodstuffs. Finished manufactures were imported to a value greater by 10 per cent; crude foodstuffs, by 9 per cent, the latter increase being largely due to the item of coffee. A low price for sugar was the controlling factor in a decline of 16 per cent in the total value of imported manufactured foodstuffs. The previously established tendency of manufactures to decline and of crude materials to advance, in their

TILE MANUFACTURING; ELECTRICAL INDUSTRIES; etc. For engineering works see under BRIDGES; CANALS; PORTS AND HARBORS; SHIPBUILDING; etc. See also CHEMISTRY, INDUSTRIAL.

**MINERAL PRODUCTION.** The article MINERAL PRODUCTION AND RESOURCES gives the latest available official figures for mineral production in the United States. The more important minerals mined in the United States are treated in separate articles: COAL; COPPER; GOLD; IRON AND STEEL; LEAD; PETROLEUM; SILVER; etc. There are also paragraphs discussing mineral production in the articles on the individual States.

**EDUCATION.** See the articles on EDUCATION IN THE UNITED STATES AND UNIVERSITIES AND COLLEGES. Separate articles on the most important universities and colleges are also given under their respective titles, such as CHICAGO, COLUMBIA, HARVARD, PRINCETON, STANFORD, YALE, etc. Sections on Education are included in the articles on the several States.

**RELIGION.** Statistics and other information relating to various denominations are given in separate articles on the various religious bodies, such as, for example, BAPTISTS, CONGREGATIONALISTS, PRESBYTERIAN CHURCHES, METHODISTS,

UNITED STATES FOREIGN COMMERCE BY GRAND DIVISIONS  
 CALENDAR YEARS 1917-1926

Calendar years	Europe	North America	South America	Asia and Oceania	Africa	Total
<i>Imports</i>						
1917.....	\$551,144,599	\$871,982,524	\$598,818,582	\$857,458,361	\$73,083,939	\$2,952,487,955
1918.....	818,121,271	974,615,248	610,981,072	1,042,088,862	85,506,462	3,031,212,710
1919.....	750,528,389	1,157,778,965	687,525,888	1,196,849,544	112,187,646	3,904,364,932
1920.....	1,227,842,745	1,662,668,071	760,999,295	1,476,691,185	150,285,194	5,278,481,490
1921.....	764,942,008	754,849,122	295,622,950	658,360,973	40,372,522	2,509,147,570
1922.....	991,203,068	822,453,976	358,762,874	875,402,855	64,924,060	3,112,740,833
1923.....	1,157,055,754	1,001,517,500	467,420,907	1,079,010,758	87,061,044	3,792,065,963
1924.....	1,096,087,463	995,155,751	466,078,844	979,658,290	72,992,231	3,609,962,579
1925.....	1,238,180,842	980,533,542	518,797,157	1,396,933,757	92,143,965	4,226,589,263
1926.....	1,285,869,944	1,011,668,725	567,978,962	1,468,945,888	96,427,362	4,430,890,381
<i>Exports</i>						
1917.....	4,061,728,923	1,261,703,532	311,893,023	546,803,433	51,983,656	6,233,512,597
1918.....	3,858,697,768	1,325,486,850	802,709,010	602,996,198	59,197,619	6,149,087,545
1919.....	5,187,666,363	1,295,791,866	441,747,728	897,801,648	97,918,385	7,920,425,990
1920.....	4,466,090,927	1,929,162,758	623,916,990	1,043,183,861	180,661,771	8,228,016,307
1921.....	2,363,898,936	1,129,579,244	273,825,393	645,381,283	72,846,550	4,485,031,356
1922.....	2,083,866,710	915,654,036	226,074,981	550,915,898	55,775,849	3,831,777,469
1923.....	2,093,415,151	1,088,167,520	269,317,939	657,921,442	6,671,028	4,167,493,080
1924.....	2,445,300,184	1,090,041,346	314,251,551	671,096,420	70,294,414	4,590,983,845
1925.....	2,603,749,728	1,138,354,314	402,605,775	676,081,068	89,056,626	4,909,847,511
1926.....	2,309,705,724	1,176,883,506	443,508,471	777,248,546	101,118,758	4,808,465,005

ROMAN CATHOLIC CHURCH, PROTESTANT EPISCOPAL CHURCH, etc.

OUTLYING POSSESSIONS. For the outlying possessions of the United States, see the following articles: ALASKA, GUAM, HAWAII, PHILIPPINES, PORTO RICO, etc. For other countries with which the United States government has been in close administrative relation, see CUBA, DOMINICAN REPUBLIC, and HAITI.

FINANCE. Based on what Secretary of the Treasury Mellon in his annual report to Congress, presented December 9, called a level of national income not before exceeded, the revenue of the United States Government derived from incomes and profits made in 1925 ran above calculations in 1926. Prosperity in 1926 in turn indicated a continuation of large yields to the Government from income taxes in the ensuing year, and rendered simpler the problem of meeting the Government's coming financial requirements. The proposal to diminish the income-tax payments, by either a rebate on payments made in 1926 or a revision of the tax-rate schedules to apply in 1927, was discussed in Congress and by the administration, but not adopted in the form of enactment up to the close of the year. See TAXATION.

*Foreign Debt Funding.* The funding of inter-governmental debts owed to the United States made progress in 1926 through the conclusion of agreements to fund the debt of France, April 29, and that of Jugo-Slavia, May 3. Both these agreements were later approved by the House but not by the Senate. The debt settlement with Italy, negotiated in 1925, was ratified by enactment of April 28; those with Belgium, Estonia, Latvia, and Rumania by acts of April 30; that with Czecho-Slovakia by act of May 3. Senate action on the French debt agreement, involving the largest amount after the British, awaited prior action by the French Parliament which was not taken during the year. The terms of the French debt agreement called for the issue of \$4,025,000,000 of bonds of France, dated June 15, 1925, to the United States. Their total was to represent the principal and accrued unpaid interest to that date. These bonds were to be redeemed in yearly serial payments of principal extending through 62 years; the yearly payments, starting with \$30,000,000 in 1926, to rise to an ultimate \$117,000,000, approximately, in the next-to-last year. Interest was to start accruing June 15, 1930, at the rate of

1 per cent per annum; the rate rising gradually till it attained 3½ per cent in 1965.

Debt funding agreements negotiated by the World War Foreign Debt Commission with the several debtor nations, up to the end of 1926, are presented in the accompanying table.

Country	Original principal (net)	Funded interest	Funded debt
	\$	\$	\$
Belgium	377,029,570	40,750,429	417,780,000
Czecho-Slovakia	91,879,671	23,120,328	115,000,000
Estonia	12,066,222	1,763,777	13,830,000
Finland	8,281,926	718,073	9,000,000
France	3,340,516,043	684,483,956	4,025,000,000
Great Britain	4,074,818,358	525,181,641	4,600,000,000
Hungary	1,685,835	253,164	1,939,000
Italy	1,647,869,197	394,130,802	2,042,000,000
Latvia	5,132,287	642,712	5,775,000
Lithuania	4,981,628	1,048,371	6,030,000
Poland	159,666,972	18,993,027	178,560,000
Rumania	36,128,494	8,461,505	44,590,000
Jugo-Slavia	51,037,886	11,812,113	62,850,000
Total	9,811,094,094	1,711,259,905	11,522,354,000
(Cents omitted)			

Payments of principal on the funded obligations of debtor governments, to November 15, from the outset of such payments, are subjoined, as to totals.

Belgium	\$2,100,000
Czecho-Slovakia	3,000,000
Finland	137,000
Great Britain	70,000,000
Hungary	19,690
Italy	5,000,000
Lithuania	60,225
Rumania	200,000
Jugo-Slavia	200,000
Total	80,716,915
(Cents omitted)	

Payments of interest under the funding agreements, by debtor governments, up to November 15, had attained the following totals:

Belgium	\$1,740,000
Estonia	50,000
Finland	938,895
Great Britain	479,880,000
Hungary	146,800
Latvia	87,000
Lithuania	362,931
Poland	1,750,000
Total	484,955,627
(Cents omitted)	

*Condition of the Treasury.* The United States Treasury showed at the close of the fiscal year, June 30, a favorable balance of \$211,128,078. Gold and currency in the general fund totaled \$249,876,451. Added to this, cash in transit and credit balances to the Treasury's account at divers depositories formed a total of \$501,620,080. Current liabilities stood at \$290,492,002. The Treasury surplus was somewhat less than that of a year earlier, but was up to the most favorable expectations, in view of the reduction of income-tax rates applying to the payments due within the calendar year 1926.

In the fiscal year 1926 the ordinary receipts of the Treasury totaled \$3,962,755,960, as compared with \$3,780,148,684 in the fiscal year 1925. Customs contributed \$579,430,092; income tax, \$1,982,040,088; miscellaneous internal revenue, \$855,599,298; miscellaneous receipts, \$545,686,219.

*Debt.* The Treasury continued in 1926 its policy of debt reduction from surplus available. On March 1, it offered to purchase at 101½ or less, for the account of the cumulative sinking fund, bonds of the Third Liberty Loan 4¼ per cent issue up to a total of \$100,000,000. There were offered at prices not exceeding 101 10/32, \$121,750,000, and this amount was purchased. An important funding operation was also carried out in March. The Treasury issued \$494,898,100 of bonds under the act of 1917, redeemable in 1946 and payable in 1956, bearing interest at 3¾ per cent. This issue served mainly to refund Treasury notes maturing March 15. It was issued at the lowest interest rate obtained on Government bonds since 1917. During the year, the Treasury continued purchasing Third Liberty Loan bonds, the year's purchases to October 31 being reported as aggregating \$207,364,800. It was the purpose of the Treasury to retire as great a portion of this issue as possible prior to its maturity in 1928. There were issued in December \$200,000,000 of 3¼ per cent Treasury certificates, to draw interest from December 15, and to run nine months, the purpose of the issue being to meet a portion of the \$450,000,000 of 3¾ per cent certificates maturing December 15; the remainder of the maturing issue was paid off from Treasury funds.

The debt of the United States on Nov. 30, 1926, totaled \$19,137,364,639, as against \$20,516,193,887 on June 30, 1925. Reduction of the gross debt total in the fiscal year ending June 30, 1926, amounted to \$872,977,573. This was effected mainly by sinking fund retirements, chargeable to ordinary receipts, to the extent of \$487,376,051 and out of surplus to the extent of \$377,767,817.

*Budget.* The President's budget message, transmitted to Congress December 8, forecast a surplus of \$383,079,095 for the Treasury at the close of the fiscal year, June 30, 1927. Opposition to a definitive revision of tax rates at the current session of Congress was expressed in the message, but the proposal of a temporary lightening of income taxes, by means of a refund to take the form of a rebate on ensuing March and June payments, was presented.

Receipts for the fiscal year 1926-27 were reckoned at \$4,026,780,688; expenditures, at \$3,643,701,593. For the fiscal year ending June 30, 1928, receipts were estimated at \$3,772,753,077; expenditures, at \$3,572,049,214; and surplus, at \$200,703,863.

The budget for that year, the President stated, made provision for a military and naval strength of over 610,000 men, and allotted \$574,000,000 to defense. The total budget appropriation for aviation was asserted to be \$82,500,000. Indirect provisions for Prohibition enforcement, combined with direct, were represented as aggregating \$30,000,000. A total of approximately \$765,000,000 for the relief, care and comfort of veterans was recommended. The President expressed his view that commencement of three of the eight light cruisers (authorized in 1924) in the immediate future would be ill timed, in view of pending efforts toward agreement on further curtailment of naval armaments; for this reason the budget included no provision for starting these cruisers. While a provision of \$75,000,000 had been made for aid to States in road building in the fiscal year, the President expressed his belief that Federal road aid should be restricted to interstate highways. See *ROADS AND PAVEMENTS*.

The accompanying table presents the estimates of appropriations in the budget for the fiscal year ending June 30, 1928, and also the appropriations for the fiscal year 1927. The 1928 estimates therein presented omitted amounts needed to carry out the public building act of May 25, 1926, placed at approximately \$20,000,000; likewise appropriations in 1927 and estimates for 1928, for refunding taxes, were omitted.

*ARMY AND NAVY.* The army and navy are treated separately in the articles *MILITARY PROGRESS* and *NAVAL PROGRESS*. See also articles on *AERONAUTICS*, *SHIPBUILDING*, *SHIPPING*, etc.

*VETERANS' BUREAU.* Laws were enacted amplifying the aid provided to World War veterans by the Government, and extending the functions of the Veterans' Bureau. The act of Mar. 30, 1926, appropriated \$8,000,000 for additional hospital and out-patient dispensary facilities, and an additional sum of \$70,000,000 to the adjusted service certificate fund, toward the payment of certificates 20 years from their dates; also \$12,250,000 for military and naval death or disability compensation accrued in the fiscal year or in earlier years; also \$27,000,000 additional for military and naval insurance for the current fiscal year. An act of June 2 extended for one year, to July 2, 1927, the time for converting yearly renewable term insurance, and it vested in the Veterans' Bureau the discretion to extend the time thereafter in cases of mental disability or disappearance of the insured; the five-year level premium term policy was also added by this act to the policies into which the term insurance might be converted. An act of July 2, 1926, provided compensation of not less than \$50 a month for veterans with arrested cases of tuberculosis. It extended rehabilitation training for a year to June 30, 1927. It also added organic loss of speech and spinal meningitis to the list of diseases entitling soldiers or sailors to Government assistance, and made women who had served in base hospitals overseas eligible for the benefits of the World War Veterans' act. An act of July 3, 1926, made several provisions to meet particular difficulties in the filing of applications under the adjusted compensation act, and forbade deductions from adjusted service credits on account of any indebtedness of a veteran to the United States.

## ESTIMATES OF APPROPRIATIONS FOR THE FISCAL YEAR 1928, COMPARED WITH THE APPROPRIATIONS FOR THE FISCAL YEAR 1927

	Estimates of appropriations, 1928	Appropriations, 1927
Legislative establishment .....	\$16,174,988.76	\$17,834,919.57
Executive office .....	438,460.00	819,460.00
Independent establishments:		
Alaska Relief Funds .....	15,000.00	15,000.00
Alien Property Custodian .....	98,000.00	130,650.00
American Battle Monuments Commission .....	800,000.00	800,000.00
Arlington Memorial Bridge Commission .....	2,500,000.00	2,500,000.00
Board of Mediation .....	890,000.00	285,220.00
Board of Tax Appeals .....	570,000.00	614,224.64
Bureau of Efficiency .....	210,850.00	210,850.00
Civil Service Commission .....	1,002,742.00	1,001,592.00
Commission of Fine Arts .....	7,300.00	5,295.00
Employees' Compensation Commission .....	2,694,740.00	2,744,540.00
Federal Board of Vocational Education .....	8,165,280.00	8,210,620.00
Federal Power Commission .....	42,500.00	32,400.00
Federal Trade Commission .....	984,350.00	997,000.00
General Accounting Office .....	3,783,000.00	3,859,960.00
Housing Corporation .....	564,236.00	673,398.00
Interstate Commerce Commission .....	6,104,967.00	6,153,157.00
National Advisory Committee for Aeronautics .....	523,000.00	513,000.00
Public Buildings Commission .....	.....	260,000.00
Public Buildings and Public Parks of the National Capital .....	2,422,950.00	2,306,850.00
Smithsonian Institution and National Museum .....	909,871.00	893,301.00
Tariff Commission .....	682,000.00	699,000.00
United States Geographic Board .....	3,945.00	345.00
United States Shipping Board .....	12,290,000.00	24,198,574.00
United States Veterans' Bureau .....	475,400,000.00	462,965,000.00
Other independent offices, etc. ....	.....	161,000.00
Total, executive office and independent establishments .....	520,402,641.00	521,049,986.64
Department of Agriculture .....	144,487,820.00	189,635,823.00
Department of Commerce .....	35,240,430.00	30,632,847.00
Department of the Interior .....	285,717,596.00	252,962,318.00
Department of Justice .....	25,895,349.50	25,628,707.00
Department of Labor .....	8,558,540.00	9,561,805.00
Navy Department .....	313,815,500.00	322,061,975.00
State Department .....	11,969,119.41	17,357,062.64
Treasury Department .....	170,468,453.00	176,637,465.63
War Department, including Panama Canal .....	366,722,142.00	354,345,801.16
District of Columbia .....	38,519,869.00	36,532,128.00
Total ordinary .....	1,937,972,448.67	1,904,240,288.64
Reduction in principal of the public debt:		
Sinking fund .....	354,157,085.00	336,058,208.26
Redemption of securities from Federal Reserve Bank and Federal inter-		
mediate credit bank franchise tax receipts .....	800,000.00	1,000,000.00
Redemption of bonds, etc., received as repayments of principal and as		
interest payments on obligations of foreign governments .....	208,672,475.93	282,928,596.58
Principal of public debt .....	563,629,560.93	569,981,804.84
Interest on the public debt .....	755,000,000.00	785,000,000.00
Total payable from the Treasury .....	3,256,602,009.60	3,259,222,093.48
Postoffice Department and Postal Service, payable from postal revenues ..	757,969,115.00	738,805,303.00
Total, including Postoffice Department and Postal Service .....	4,014,571,124.60	3,998,027,396.48

\* Appropriations for the Railroad Labor Board for 1927 were made available for expenses of the Board of Mediation.

**Hospitals.** At the close of the fiscal year the Bureau had in operation 51 hospitals. Of these 18 were for the treatment of tuberculosis, 16 for neuro-psychiatry, and 17 for general medical and surgical service. Use was made, in addition, of the available facilities of 49 other hospitals of the Army, the Navy and the Public Health Service, and of space in civil hospitals in many parts of the country. There was a falling off during the year of admissions to the general and tuberculosis hospitals on account of disease or injuries due to service, rendering possible a greater hospitalization of veterans of all wars subsequent to 1897, for complaints treated by such hospitals and not incurred through service. Among the insane patients there were relatively fewer discharges, and the facilities remained more completely in use for the war cases. The total of all Government beds available June 30, 1926, was 30,564, of which 8373 were unoccupied. Admissions of patients to all hospitals for treatment by the

Veterans' Bureau in the fiscal year numbered 70,795. Of that total pulmonary tuberculosis cases numbered 17,605, neuro-psychiatric 12,677 and general cases 40,513.

**Rehabilitation.** The operations of the fiscal year in regard to training veterans for employment were carried on in the expectation that this service would cease at the close of the year. Courses had on this account to be curtailed so as to come within the expected time limit. The number of those in training fell from 21,803 at the beginning of the fiscal year to none on July 1, 1926. Many whose courses had been curtailed returned into training after July 2.

**Adjusted Compensation.** In the fiscal year, applications for adjusted compensation to the number of 397,008 were received, bringing the total of all such applications under the operation of the system to 3,242,188. Of the 3,145,222 claims adjudicated up to the end of the fiscal year, disposition was made of 2,980,306 by issue



of adjusted service certificates to veterans. Of the remaining claims, 58,596 related to dependents of veterans whose credit exceeded \$50; the rest of the claims were to amounts of \$50 or less. The total amount of adjusted service certificates outstanding at the end of the fiscal year was \$3,069,796,731. Appropriations for the adjusted service certificate fund, to June 30, 1926, totaled \$220,000,000, and disbursements from this fund to that date totaled \$19,961,927, of which \$15,354,526 occurred in the course of the fiscal year. The balance of the fund on June 30 was \$203,915,047.

**POST OFFICE.** The operation of the act of 1925, increasing salaries and compensation of the lower-class postmasters and of postal employees, again produced a deficit in the operations of the Post Office Department. The operating deficit was \$37,906,118 for the fiscal year ending June 30, 1926. As compared with the deficit for the preceding year, it showed a decline of \$1,838,909. According to the Postmaster General, a great part of the 1926 deficit resulted from the discharge of obligations carried over from previous years and from contributions to the civil service retirement fund. As rendered by him, the actual cash deficiency was accordingly only \$19,972,379. He estimated the cost of increased salaries imposed by the act of 1925 as approximating, for the fiscal year 1926, \$65,000,000, of which higher postal rates provided under the same act defrayed not much more than one-half.

With approximate deduction made to offset the effect of the higher postal rates, the business of the postal service on the basis of the old rates was estimated to have made for 1926 an increase of 5.36 per cent over that of the fiscal year preceding. A survey to provide an analysis of the revenues of the service and the cost of handling the mail was made in four representative weeks, one in each quarter of the fiscal year, but the results of this survey were not officially formulated by the close of the calendar year 1926. The revenue of the postal service for the fiscal year, money order fees included, attained a total of \$659,819,801. It exceeded that for the fiscal year ending June 30, 1925, by \$60,228,323, or by 10.04 per cent, the increase resulting largely from the application of the higher rates throughout the later year. Expenditures for 1926 attained \$679,704,053, and exceeded by \$40,422,405 those for the preceding fiscal year. Postage paid on mail amounted to \$587,856,191, and formed 89.09 per cent of the entire revenue. Expenditure for postage was \$4.97 per capita of the population.

The number of post offices of the first, second and third classes increased by 262 to a total of 15,461 at the close of the fiscal year, from 15,199 at its outset. Post offices of the first and second classes had 122,159 employees at the close of the fiscal year, postmasters, rural carriers and motor-vehicle workers not included. The increase in this number for the year included 2000 clerks and 1987 carriers hired, while 1608 clerks and 448 carriers left the service. The expense of transportation of mail by rail routes for the fiscal year aggregated \$106,656,368, and was less by \$834,732 than that for the previous year.

Progress in development of air-mail service was made in the fiscal year by extension of transcontinental airway lighting from Rock

Springs to Salt Lake City, thus providing 2045 miles of lighted airway, stretching from New York to Salt Lake City. The work formed part of a plan to light the entire 2669 miles of airway between New York and San Francisco. The air mail (Government-owned) carried in the course of the fiscal year 353,641 pounds of mail at the rates established for its service, and received therefor a total of \$861,865 excess postage, this total being \$259,237 higher than in the year preceding. The transcontinental route made \$700,894 of this total, and the New York-Chicago route the remainder. Apart from the Government-owned air mail there were put in operation in the fiscal year nine contract air-mail routes served by private aircraft. These ran from Chicago to St. Louis, Chicago to Dallas, Chicago to Minneapolis, Chicago to Detroit, Detroit to Cleveland, Salt Lake City to Los Angeles, Elko, Nev., to Pasco, Wash., Jacksonville to Miami, and Cheyenne to Pueblo, Colo. The first of these routes commenced operation Feb. 15, 1926. All the contract routes covered, among them, 378,478 flight miles up to the close of the fiscal year. The appropriation for contract air-mail service for the fiscal year was \$500,000, of which only \$101,588 was expended. See AERONAUTICS.

There were in operation, June 30, 1926, 45,318 rural delivery routes serving some 6,610,000 families. Their service involved an aggregate of 1,232,175 miles of travel each day. It was defrayed by an appropriation of \$88,350,000 and by part of a supplemental appropriation of \$20,977,402 for equipment maintenance in two fiscal years. The entire postal service distributed, of first-class mail, 9,451,599,623 pieces; of mail of other classes, 8,377,081,831 pieces. These totals represented an increase of 0.81 per cent in first-class mail and a decrease of 0.06 in mail of other classes, as compared with the year previous. Mail dispatched to foreign destinations during the year aggregated a weight of 60,045,484 pounds, chiefly composed of prints and of parcel-post packages. Of mail to foreign destinations 470,015,199 pieces were dispatched, according to estimate, parcel post not included, and 369,041,616 were received.

With regard to the dispute over the postal rate schedule, it was asserted that the two-cent rate on private mailing cards had resulted in the general disuse of this type of postal service. Accordingly, the House of Representatives passed on December 20 a measure to restore the one-cent rate on such cards. Bearing on the demand of newspaper and periodical publishers for a reduction in the rates on second-class matter, the figures on mailings of such matter for the fiscal year showed the total to aggregate 1,493,235,888 pounds, and to represent an increase of 75,744,315 pounds over the total for the year preceding. Postage collected on these mailings amounted to \$31,983,209, of which postage on the advertising matter at the special rates provided therefor furnished \$19,286,364. At the close of the year 29,141 publications held a second-class status, this being an increase of 616 for the year.

A series of robberies of vehicles carrying mails led to an order, October 20, disposing of 2500 men of the Marine Corps as armed guards for these vehicles in 23 cities.

The postal savings system had, on June 30, \$138,033,326 to the credit of its depositors. This



total represented an increase of \$2,102,428 for the year. The items composing it were: Outstanding postal saving certificates, \$134,178.558; accrued interest, \$3,796,141; postal savings stamps, \$58,628. The depositories for postal savings numbered 5853, a decrease of 32 in the course of the year. In the year, postal savings certificates to a total of \$544,160, or \$213,020 more than in the year previous, were exchanged by holders into 2½ per cent postal savings bonds.

**PENSIONS.** The Bureau of Pensions disbursed in the fiscal year ending June 30, 1926, for pensions, a total of \$207,844,348, representing the entire amount appropriated and available for this use. It received and classified 138,253 pension claims. Of these 42,894 were based on Civil War service and 72,437 on service in the war with Spain. It disposed of 139,351 claims, and issued pension certificates to the number of 87,956.

A reduction of \$9,306,364 in pensions paid to veterans and widows of different wars occurred during the year. The net loss to the pension roll for the fiscal year was 10,814. The roll of the Civil War soldier pensioners was reduced by 19,776; that of Civil War widow pensioners by 14,543. These reductions were largely offset by a gain of 20,480 to the Spanish War soldier roll, and 2448 to the Spanish War widow roll. Of the pensioners on the rolls at the end of the fiscal year, 106,790 were Civil War veterans, 226,650 Civil War widows, 122,182 Spanish War veterans, and 20,811 Spanish War widows. There were still on the rolls, 9 soldiers of the war with Mexico, and 20 widows whose husbands served in the War of 1812. The total distribution to pensioners under the pension system since 1790 has been \$7,261,346,359, of which \$6,784,920,604 was paid on account of the Civil War and \$181,995,079 on account of the war with Spain. The Revolutionary War cost approximately \$70,000,000 in pensions, the War of 1812, \$46,162,715; the war with Mexico, \$57,487,054; and Indian Wars, \$20,500,128. The average annual value of pensions of all classes was given as \$414.26; the average annual value of pensions to soldiers of the Civil War, \$802.64; to soldiers of the war with Spain, \$197.96; to widows of the Civil War, \$378.86; and to widows of the war with Spain, \$287.83.

Under the classified civil service retirement fund the Pension Bureau reported 17,037 civil service employees placed on the annuitants' roll and 4513 names dropped by reason of death or other cause, leaving 12,524 annuitants on the roll on June 30, 1926. The number of new claims in the year was 38,972, and number of claims disposed of, 37,457. The civil service retirement and disability fund, amounted, June 30, 1925, to \$44,665,778. During the year the fund was increased through deductions from salaries, and by interest, profits, and miscellaneous receipts, by a total of \$20,166,233. Total disbursements from the fund were \$10,210,465, leaving a surplus in the fund on June 30, 1926, of \$54,622,546.

**DIPLOMATIC SERVICE.** The year passed with relatively few changes in the diplomatic personnel abroad. The chief of these was the succession of Ogden H. Hammond to the post of ambassador extraordinary and plenipotentiary at Madrid. Mr. Hammond arrived at Madrid March 24, and was presented to King Alfonso March 27. Owing to the non-ratification of the

treaty with Turkey, the post of ambassador to that Government remained vacant throughout the year.

Alanson B. Houghton, summoned home from his post in Great Britain for conference in Washington, presented in March an unfavorable view of European prospects, which aroused discussion in the Senate. He returned to his post in April.

Senator Henry Bérenger, appointed French ambassador to the United States, left Paris for Washington January 6. He had for his especial mission the negotiation of an agreement for the funding of the war debt of the French Government to the United States. This mission performed, he returned to France. Count Paul Claudel was named ambassador of the French Republic to the United States, November 30, succeeding M. Bérenger.

Allen W. Dulles, after serving as United States delegate to the preliminary armament conference, resigned from the foreign service, the low remuneration being alleged as the cause of his action. Charles Vincent Massey was appointed, December 5, envoy extraordinary and minister plenipotentiary from Canada to the United States, being the first regular diplomatic representative of the Dominion in the United States.

The following lists give the names of the diplomatic representatives from the United States to foreign countries, and from foreign countries to the United States, in 1926:

#### EMBASSIES AND LEGATIONS OF THE UNITED STATES:

Albania—Charles C. Hart, minister.  
 Argentina—Peter Augustus Jay, ambassador.  
 Austria—Albert Henry Washburn, minister.  
 Belgium—William Phillips, ambassador.  
 Bolivia—Jesse S. Cottrell, minister.  
 Brazil—Edwin V. Morgan, ambassador.  
 Bulgaria—Charles S. Wilson, minister.  
 Chile—William Miller Collier, ambassador.  
 China—John Van A. MacMurray, minister.  
 Colombia—Samuel H. Piles, minister.  
 Costa Rica—Roy T. Davis, minister.  
 Cuba—Enoch H. Crowder, ambassador.  
 Czecho-Slovakia—Lewis Einstein, minister.  
 Denmark—H. Percival Dodge, minister.  
 Dominican Republic—Evan E. Young, minister.  
 Ecuador—Gerhard A. Bading, minister.  
 Egypt—J. Morton Howell, minister.  
 Esthonia—Frederick W. B. Coleman, minister. (Also to Latvia and Lithuania.)  
 Finland—Alfred J. Pearson, minister.  
 France—Myron T. Herrick, ambassador.  
 Germany—Jacob Gould Schurman, ambassador.  
 Great Britain—Alanson B. Houghton, ambassador.  
 Greece—Robert P. Skinner, minister.  
 Guatemala—Arthur H. Geissler, minister.  
 Haiti—\_\_\_\_\_, minister.  
 Honduras—George T. Summerlin, minister.  
 Hungary—Theodore Brentano, minister.  
 Italy—Henry P. Fletcher, ambassador.  
 Japan—Charles MacVeagh, ambassador.  
 Latvia—Frederick W. B. Coleman, minister. (Also to Esthonia and Lithuania.)  
 Liberia—\_\_\_\_\_, minister resident and consul-general.  
 Lithuania—Frederick W. B. Coleman, minister. (Also to Esthonia and Latvia.)  
 Luxembourg—William Phillips, minister.  
 Mexico—James R. Sheffield, ambassador.  
 Morocco—Maxwell Blake, diplomatic agent.  
 The Netherlands—Richard M. Tobin, minister.  
 Nicaragua—Charles O. Eberhardt, minister.  
 Norway—Laurita S. Swenson, minister.  
 Panama—John Glover South, minister.  
 Paraguay—George L. Kreeck, minister.  
 Persia—Hoffman Philip, minister.  
 Peru—Miles Poindexter, ambassador.  
 Poland—John B. Stetson, Jr., minister.  
 Portugal—Fred Morris Dearing, minister.  
 Rumania—William S. Culbertson, minister.  
 Salvador—Jefferson Caffery, minister.

Serbs, Croats, and Slovenes, Kingdom of—John Dzyneley Prince, minister.  
 Siam—William W. Russell, minister.  
 Spain—Ogden H. Hammond, ambassador.  
 Sweden—Robert Woods Bliss, minister.  
 Switzerland—Hugh S. Gibson, minister.  
 Turkey ———, ambassador.  
 Uruguay—U. Grant-Smith, minister.  
 Venezuela—Willis C. Cook, minister.

#### EMBASSIES AND LEGATIONS TO THE UNITED STATES:

Albania—Faik Konitza, minister.  
 Argentina—Honorio Pueyrredon, ambassador.  
 Austria—Edgar L. O. Prochnik, minister.  
 Belgium—Baron de Cartier de Marchienne, ambassador.  
 Bolivia—Dr. Don Ricardo Jaimes Freyre, minister.  
 Brazil—S. Gurgel de Amaral, ambassador.  
 Bulgaria—Simeon Radoff, minister.  
 Chile—Don Miguel Cruchaga Tocornal, ambassador.  
 China—Sao-Ke Alfred Sse, minister.  
 Colombia—Dr. Enrique Olaya, minister.  
 Costa Rica—Don J. Rafael Oreamuno, minister.  
 Cuba—Dr. Orestes Ferrara, ambassador.  
 Czechoslovakia—Zdenek Fierlinger, minister.  
 Denmark—Constantin Brun, minister.  
 Dominican Republic—Angel Morales, minister.  
 Ecuador—Don Juan Barberis, first secretary and chargé d'affaires ad interim.  
 Egypt—Mahmoud Samy Pasha, minister.  
 Estonia—Antonius Piip, minister.  
 Finland—Axel Leonard Astrom, minister.  
 France—Paul Claudel, ambassador.  
 Germany—Dr. Hans Heinrich Dieckhoff, counselor of embassy.  
 Great Britain—Sir Esme Howard, ambassador.  
 Greece—Charalambos Simopoulos, minister.  
 Guatemala—Don Francisco Sánchez Latour, minister.  
 Haiti—Hannibal Price, minister.  
 Honduras—Luis Bográn, minister.  
 Hungary—Count László Széchenyi, minister.  
 Irish Free State—Timothy A. Smiddy, minister.  
 Italy—Nobile Giacomo de Martino, ambassador.  
 Japan—Tsuneo Matsudaira, ambassador.  
 Latvia—Charles L. Seya, minister.  
 Lithuania—Karys Bizauskas, minister.  
 Luxembourg—Baron Raymond de Waha, chargé d'affaires.  
 Mexico—Don Manuel C. Tellez, minister.  
 Netherlands—Jonkheer Dr. H. Van Asch Van Wyck, counselor of legation and chargé d'affaires ad interim.  
 Nicaragua—Dr. Don Salvador Castrillo, minister.  
 Norway—H. H. Bryn, minister.  
 Panama—Dr. Don Ricardo J. Alfaro, minister.  
 Paraguay—Dr. Don Eusebio Ayala, minister.  
 Persia—Farhollah Khan Noury Esfandiary, chargé d'affaires ad interim.  
 Peru—Dr. Hernan Velarde, ambassador.  
 Poland—Jan Ciechanowski, minister.  
 Portugal—Viscount d'Alto, minister.  
 Rumania—Radu T. Djuvara, chargé d'affaires.  
 Russia—Serge Ughet, financial attaché.  
 Salvador—Dr. Don Hector David Castro, secretary of legation and chargé d'affaires ad interim.  
 Serbs, Croats, and Slovenes—Dr. Ante Tresich Pavichich, minister.  
 Siam—Phya Vajitavonga, minister.  
 Spain—Don Alejandro Padilla y Bell, ambassador.  
 Sweden—W. Boström, minister.  
 Switzerland—Marc Peter, minister.  
 Uruguay—Dr. Jacobo Varela, minister.  
 Venezuela—Dr. Don Carlos F. Grisanti, minister.

**PATENTS.** During 1925 there were granted, for mechanical inventions, 45,218 patents. Re-issue patents numbered 237, and design patents 2692. The number of trademarks registered was 14,542; of labels, 1400; and of prints, 615. Copies of patents to the number of 2,782,453 were sold, and copies numbering 1,173,752 were sent to foreign countries. The total number of patents issued in the United States from the outset up to the close of 1925 was 1,577,996.

**CABINET.** See under *Administration*.

**SIXTY-NINTH CONGRESS, FIRST SESSION.** Congress reassembled January 4, after the holiday recess. Session activities previous to 1926 were detailed in the preceding *YEAR BOOK*. The session closed July 2. The Senate adjourned until November 2, then to reassemble as an impeach-

ment court for the trial of the case of Judge George W. English.

The chief achievements of the session were: Passage of the Revenue Act of 1926, carrying material reductions in personal income tax, both in the higher and in the normal income groups; enactment of the Watson-Parker measure abolishing the Railroad Labor Board and creating in its place, for dealing with labor matters, a Board of Mediation composed of five members, to effect arbitration of disputes; passage of a measure to encourage commercial aviation, and creation of bureaus in the departments of War, Navy and Commerce, headed by Assistant Secretaries, to deal with aviation matters; creation of a coöperative marketing division in the Department of Agriculture, to advance marketing of agricultural products; increase of annuities under the civil service retirement system; passage of a measure for codification of the Federal statutes since 1789; enactments in favor of veterans of divers wars, and notably of amendments to the World War veteran and adjusted compensation acts (see section on *Veterans' Bureau*, above); ratification of debt agreements with Italy, Belgium and several other governments indebted to the United States Treasury (see under *Finance*, above); ratification, with reservations, of adherence to the World Court.

**Composition of Congress.** The Senate voted, January 12, by a close vote of 41 to 39, to seat Gerald P. Nye, an interim appointee of the Governor of North Dakota, as Senator from that State. Senator Brookhart of Iowa was unseated by a Senate vote of April 12, accepting a decision of the Senate Committee on Privileges and Elections, which after a recount of votes reported Daniel F. Steck, Democrat, rightfully elected, by 1420 plurality, in the Iowa Senatorial election of 1924. Senator-elect Thomas D. Schall (Rep., Minn.) was seated by the Senate, the contest of his election in 1924, brought by the defeated candidate, Magnus Johnson, being dismissed.

**Tax Legislation.** While both houses proceeded with measures to reduce taxation in consonance with the excess of revenue over expenditure attained in the previous fiscal year, the bills prepared by the Senate Finance Committee and the House Committee on Ways and Means differed greatly. The bill reported out of committee in the Senate, January 20, provided for the cessation of the tax on estates of decedents dying after the going into force of the measure. It also called for large reductions in the income tax, reckoned to aggregate about \$46,000,000 in normal tax, \$121,000,000 in surtaxes, and \$42,000,000 in personal exemptions. The House bill maintained the estate tax, while raising to 80 per cent the allowances from it for State estate taxes. It provided less considerable reductions of income tax than did the Senate bill, in the aggregate. The tax on automobiles was reduced in the House bill.

The Senate voted, February 10, to repeal the estate tax and the taxes on theatre tickets and automobiles, thus adding reductions expected to total over \$100,000,000 to the reductions of taxes provided in the House revenue measure. As finally passed by the Senate, February 12, the bill carried reductions estimated at \$456,261,000. The Senate voted, February 2, for increase of the corporation tax to 13½ per cent,



*Keystone*

ARTHUR R. GOULD  
Maine



*Underwood & Underwood*

GERALD P. NYE  
North Dakota



*Underwood & Underwood*

THOMAS D. SCHALL  
Minnesota



*P. & A. Photos*

DANIEL F. STECK  
Iowa

FOUR UNITED STATES SENATORS PROMINENT IN 1926

100

from 12½, of income, and for repeal of the tax on capital stock. The reduced surtax rates on incomes, recommended by the finance committee, providing surtaxes up to 20 per cent on \$100,000 income, half the existing maximum, were voted by the Senate on the following day. The Norris amendment to make all income tax returns public was defeated February 8.

A conference committee proceeded to reconcile the two bills. The measure that it produced, February 20, maintained the estate tax; reduced the capital tax; abolished the gift tax and a considerable list of miscellaneous taxes such as those on cameras, firearms and jewelry; maintained a tax on theatre admittances; removed that on auto trucks; maintained a tax on other automobiles; and allowed various reductions of income tax totaling an estimated \$164,400,000 a year. The bill, as presented by the conference committee, was passed by the House February 23, and by the Senate on the day following. The President signed it February 26.

*Foreign Debt Settlements.* The House ratified the Italian debt settlement January 15. On the following day it ratified the settlements with Belgium, Czecho-Slovakia, Rumania, Esthonia, and Latvia. Presented by President Coolidge, who endorsed it as a settlement "fair and honorable to both governments," the agreement negotiated by Ambassador Béranger and the debt funding commission for the repayment of the French debt to the United States Government was attacked in the Senate April 30 by Reed (Democrat, Mo.), Borah (Republican, Idaho), Harrison (Democrat, Miss.) and McKellar (Democrat, Tenn.). The House approved the French war debt settlement, June 2, and sent it to the Senate, which, however, did not act upon it in the course of the year.

*Settlement of Railroad Labor Disputes.* The Senate passed, May 11, a measure for the abolition of the Railroad Labor Board, which it had received from the House. The bill, favored by railroad executives and labor organizations alike, left the settlement of labor disputes to the parties involved, in the first instance, but provided a board of mediation to intervene at the request of either party, and if necessary to postpone strikes. The President signed the measure May 20.

*Discussion of Armaments Indorsed.* Congress, January 4, received from President Coolidge a special message recommending that \$50,000 be appropriated to cover the expense of participation in the preliminary League disarmament conference. The House voted this sum January 18. The Senate passed the appropriation January 20.

*Appropriations.* The House adopted, April 12, a naval aviation bill with a programme calling for expenditure of \$85,000,000 over a term of five years. The Senate passed, June 3, the naval aviation programme. The five-year army aviation building programme, to cost some \$150,000,000, was approved, May 5, by unanimous vote of the House. The House, January 25, passed the naval appropriation bill. This bill, as it passed the Senate, February 16, carried a total of \$321,495,940, and thus exceeded the House bill, which disposed of only \$312,312,297. A deficiency bill to provide additional men and vessels to enable the Coast Guard service to increase its efforts to suppress illicit entry of

alcoholic beverages was reported in the House February 1. An appropriation of \$9,000,000 to provide new Coast Guard vessels to be employed in Prohibition enforcement was passed by the House May 17. The Treasury and Post Office appropriation bill, carrying \$868,515,581, passed the Senate February 15, and went to a conference committee for adjustment of the differences between the measures of the two houses. The Porter bill, carrying \$10,000,000 for embassy buildings abroad, passed the House March 15. The Rivers and Harbors bill was passed by the House June 4. As it left the House it provided for a 400-mile canalization along the Missouri River, a diversion of the Illinois River, and the purchase of the Cape Cod Canal. The Federal Public Buildings bill was altered in conference committee, and, as thus altered, carried \$165,000,000 appropriations. Of this total \$50,000,000 was for construction in the District of Columbia, \$100,000,000 for new Federal construction in various parts of the country and \$15,000,000 for completion of buildings authorized in 1913. The bill in this form passed the Senate May 17. The bill increasing pensions on account of Spanish War service was passed by the House April 5. The Spanish War pension bill, signed by the President May 1, provided approximately \$19,000,000 and increased allowances to injured, aged and widowed recipients. The World War veterans' act, as passed by the Senate, June 28, provided hospitalization for women and extensive reorganization of the existing system of providing for veterans. A conference committee of the two houses took their respective bills into consideration, and the bill was enacted thereafter. The House had previously passed unanimously, May 17, the Johnson bill, carrying appropriations of \$30,000,000 to be used over three years for the relief of disabled veterans.

*Action on the World Court Protocol.* Senator Reed of Missouri, an opponent of the World Court, offered a resolution to investigate propaganda on behalf of adherence by the United States to the court. This was defeated January 6. Applying the closure rule for the second time since 1917, the Senate ended debate, January 25, on the World Court, and on January 27, by a vote of 76 to 17, approved adherence to the court protocol, with reservations as to the amenability of the United States.

The World Court resolution, as passed by the Senate, January 27, gave the consent of the Senate to the United States' adherence to the protocol establishing the Permanent Court of International Justice, as proposed in the President's message of Dec. 9, 1925, but without agreeing to the optional clause for the court's compulsory jurisdiction; and it affixed five reservations as conditions to such adherence. These reservations provided that the United States should not through adherence assume any legal relation to the League of Nations; that it should have an equal voice in the election of judges of the court; that its share in the court's expenses should be determined and appropriated by Congress; that it might withdraw at will; and finally, that the court should render no advisory opinion as to the United States save with the latter's consent. See WORLD COURT.

*Senate Investigation of Primary Campaign Expenditures.* The Senate passed a resolution, May 19, creating a committee of five to investi-

gate expenditures in the Senatorial primary campaigns. Vice President Dawes named Reed of Pennsylvania, Deneen of Illinois, LaFollette of Wisconsin, Republicans; and Reed of Missouri and Bayard of Delaware, Democrats. Reed of Pennsylvania, Bayard and Deneen declined, and were replaced by McNary of Oregon and Goff of West Virginia, Republicans, and King of Utah, Democrat. Reed of Missouri was made chairman.

The Reed committee held hearings in Pennsylvania in June and elicited testimony that \$2,793,583 had been spent there. On July 26 it took up the investigation of the Illinois Senate primary campaigns, holding hearings at Chicago. The Reed committee, while in Pennsylvania, June 17, drew from Wayne B. Wheeler, general counsel of the Anti-Saloon League, testimony as to the League's participation in Senatorial campaigns and in Prohibition prosecutions. It appeared from Wheeler's testimony that approximately \$11,000,000 had been collected for all activities, in six years, by the national League and 23 State branches. Mr. Wheeler subsequently testified that the League had spent in 30 years some \$35,000,000, and of this, \$3,430,285 in the years 1920-1925, inclusive.

The committee in its investigations in Illinois summoned before it as a witness Samuel Insull, a public utility capitalist of Chicago, the reputed donor of a large sum for the primary campaign of the Republican Senatorial nominee, Frank L. Smith. Robert E. Crowe, State attorney for Cook County, was also summoned. Both men on the witness stand refused to answer questions put by Senator Reed with regard to contributions. The Reed committee in a partial report, published December 22, dismissed charges of Senate primary campaign abuses in Oregon, Missouri, and Washington. The investigation of the Pennsylvania charges was reported as not yet completed at the end of the year.

*Other Senate Investigations.* The report of the Couzens committee, the Senate committee investigating the conduct of the Bureau of Internal Revenue, was submitted January 12. It impugned the propriety of amortizations allowed taxpayers, subsequently to 1921, to a total of \$210,000,000, and of tax refunds between July 1, 1921, and April 30, 1925, to the total of \$460,000,000.

As a consequence of an attack previously made on the Aluminum Company of America, reputed to be under the financial control of Secretary of the Treasury Mellon and his brother, resolutions were introduced, January 5, in both houses, for the investigation of the company. A Senate resolution to investigate failure of the Department of Justice to prosecute the company was passed January 6. Attorney General Sargent, appearing before the Senate committee on judiciary, January 8 expressed doubt as to how the Department of Justice could obtain and employ against the Aluminum Company confidential information said to be in the hands of the Federal Trade Commission. A report of the judiciary committee, unfavorable to Secretary Mellon and the Department of Justice, and submitted by Walsh of Montana (Democrat), dealt with the Aluminum Company of America. The Senate rejected it, February 26.

An investigation of the Tariff Commission was decreed by a Senate resolution passed March 11. Robinson of Arkansas (Democrat), of the investigating committee, subpoenaed the

Tariff Commission, March 30, to compel it to furnish reports made to the President on sugar, butter, linseed oil, and certain other tariffs.

The Senate voted, July 1, for an investigation by the judiciary committee of the proceedings of the Federal Trade Commission and of the Attorney General in the bread trust cases.

The House committee on interstate and foreign commerce submitted, March 13, a report on the rubber supply, asserting that a British monopoly existed, but offering no recommendations.

A Senate committee named for the purpose, May 27, by the judiciary committee, and consisting of Cummins, Goff and Borah, Republicans, and King and Walsh, Democrats, conducted an inquiry into the constitutionality of the executive order for simultaneous service of local officers under the State and Federal systems for Prohibition enforcement.

*The Woodlock Appointment.* The appointment of Thomas F. Woodlock, as a member of the Interstate Commerce Commission, long a subject of difference between the executive and the Senate, was finally confirmed by Senate vote, March 26. Advocates of sectional representation on the commission, in particular, had opposed the appointment.

*Impeachment of Judge English.* Judge George W. English, of the Federal district of Eastern Illinois, was impeached by the House, on a vote of 306 to 62, April 1. The charges against Judge English included the deposit of funds and assets under court control, in institutions in which the Judge had an interest as stockholder. On the arrival of the time set for his impeachment trial by the Senate, Judge English resigned from the bench of the Federal district of Eastern Illinois, November 4, asserting that the impeachment brought against him by the House in the previous session had "impaired his usefulness." See *Second Session*, below.

*Farm Relief Bills.* Difference of opinion between the supporters of the administration and the Congress group most actively identified with the distressed portions of the farming class resulted in the inability of the Republican majority to harmonize conflicting bills for farm relief. The cooperative marketing measure alone passed, of the farm relief measures offered for passage when the House, May 4, began debate on the subject.

The Haugen bill was defeated in the House May 21, by 212 to 167. The Senate voted against the McNary bill, the Senate equivalent, June 24. The so-called "farm bloc," composed of Senators supporting the agricultural interests, favored the McNary bill, which provided extensive Federal monetary aid to farm organizations, as a revolving fund to aid in the carrying and disposal of surplus crops. After the defeat of this measure they permitted the bill of Senator Fess, endorsed by the administration, and providing a system of Federal farm credits, to come to a vote. The Fess bill was defeated, June 29, by 26 to 54. The Senate on the same day passed the cooperative marketing bill, received from the House. Senators Norbeck, Gooding, Norris, Watson, Cummins, Deneen, Howell, Johnson, McMaster, McNary, and Frazier, 11 in all, had met April 29 and adopted resolutions demanding farm relief legislation before adjournment.

*Amendment of the Constitution.* The Senate voted, February 15, with but two dissenting votes, for the Norris resolution for an amend-

ment of the Constitution to set a date for the inauguration of the President, and to advance the date of the convening of the regular session of Congress; this was designed to do away with sessions held subsequently to the election of Congress but prior to the installation of the new members. The House failed to take action on this resolution, up to the end of the session.

**Reapportionment Bills.** The reapportionment of representation was crowded out by other business in the House, which by vote, April 8, refused to suspend the rules in order to consider reapportionment bills. Snell of New York (Republican), chairman of the House rules committee, declared it as his opinion, April 8, that the reapportionment provision in the Constitution was not mandatory upon Congress, and pronounced against suspending the rules of the House to give consideration to reapportionment bills. The House sustained him, 265 to 87.

Four reapportionment bills were reported to have been rejected by the House census committee prior to the middle of June. At that time Representative McLeod (Republican), of Michigan, a State strongly interested in reapportionment by reason of its growth in population, offered another bill on the subject. His measure proposed to take reapportionment out of the hands of Congress and to place it in those of the Secretary of Commerce, as the administrative head responsible for the census. The Secretary was to be charged with reapportioning representation among the several States in accordance with the returns of each successive census; the total number of Representatives to be 435 until 1931, and thereafter 401. The bill remained undisposed of, at the end of the session.

**Muscle Shoals.** The House voted, 248 to 27, January 5, to create a joint Congressional committee to negotiate leases of the Government power plants at Muscle Shoals. A joint committee on Muscle Shoals was created, and it recommended, April 26, that Government nitrate and power plants at the Shoals be leased for 50 years to a group of Southern power companies. A concurrent resolution to authorize reception of bids for lease of the Muscle Shoals hydro-electric plant passed the Senate March 8.

**Radio Regulation.** A radio regulation bill, designed to correct the situation resulting from the Attorney General's ruling against the legality of the radio licensing system previously operated by the Secretary of Commerce, failed of enactment through non-agreement of the two houses, which passed the measure with differences as to detail, the House vesting authority in the Secretary of Commerce and the Senate placing it in an independent commission. See *Second Session*, below.

**Other Bills.** Legislation to prescribe the conditions under which national banks might establish branches was passed in both houses, but failed, by the end of the session, to come out of conference committee, where it had been placed in order to reconcile differences between the two bills. The House measure, the McFadden Banking bill, linked branch banking with proposed legislation to extend the charter of the Federal Reserve banking system, which consequently also failed of passage.

A bill was introduced by Senator Capper (Republican), to provide in advance of the need a series of measures to put the Government and

the nation on a war basis automatically in case war should occur. Secretary of War Davis, Daniel Willard, Bernard M. Baruch and others spoke, April 9, in favor of the bill, before the Senate Committee on Military Affairs. Secretary of War Davis detailed, April 6, to the House Committee on Military Affairs, a system of laws that he urged be passed in peace time, to go into force in the event of war, and upon proclamation by the President.

A measure, signed by the President May 25, made of an area of some 70,000 acres in Kentucky, comprising the Mammoth Cave, a national park.

The Senate passed a bill to increase the salaries of the Federal judiciary, but on this bill the House failed to take action. See *Second Session*, below.) Provisions for cooperation of Federal and State governments in reclamation development were contained in a bill passed by the Senate; the House failed to take action on it. Walsh (Democrat), of Montana, who had been active in the Senate with regard to the oil lease scandals, brought forward a bill designed to simplify the legal procedure which had resulted in long delay of the trials. The Senate passed this bill May 21. A resolution of Copeland (Democrat, New York), to request the President to intervene in the anthracite strike, was adopted by the Senate, February 9. The Senate having voted for intervention of the Government in anthracite strikes, the House interstate commerce committee, instead of following its lead, voted June 16 to postpone action on coal legislation until the second session. A Senate bill to equalize the railroad rates on long and short hauls was defeated by the Senate, March 24. The vote was 33 to 46, the radical Senators generally voting for the measure.

The House Immigration Committee reported, April 26, its bill revising existing provisions as to the entry and the deportation of aliens. The House measure amplifying the power of the Government to deport aliens was passed, June 7. It permitted deportation of alien criminals for offenses committed up to the period of ten years after their admittance into the country, allowed deportation for second offenses within three years of prison release, and allowed deportation of alien insane without limit as to the length of their previous sojourn.

Secretary of Commerce Hoover presented to the House Committee on Rivers and Harbors, January 29, a plan for the 10,000-mile river and harbor development designed to place the Mississippi Valley States in low-cost water freight communication with the Gulf of Mexico, as a means of providing a cheap export outlet for farm products. The All-American Deeper Waterway project received the support in March of favoring letters, from Secretary of the Navy Wilbur and Captain Elmer C. Crowley of the Emergency Fleet Corporation, addressed to Chairman Dempsey of the House Committee on Rivers and Harbors.

A bill providing for the appointment of 14 additional Federal judges was passed by the House June 8.

**SIXTY-NINTH CONGRESS, SECOND SESSION.** The second session of the 69th Congress convened December 6. At the first opportunity, on the day of convening, Walsh of Montana (Democrat) introduced a resolution in the Senate to investigate the fitness of Arthur R. Gould, Republican

Senator-elect from Maine, to serve the unexpired term of the late Senator Fernald. As no question of the legitimacy of the Maine special Senatorial election had arisen, the issue as to Gould was solely whether or not his alleged relations to corruption of officials in the Province of New Brunswick, in the interest of a railroad project, some years before, rendered him subject to exclusion from the Senate. Advocates of the Walsh resolution maintained that the Senate had full constitutional power to determine the qualifications of its members.

Congress, in joint session, heard the President's message December 7. This was followed December 8 by his budget message, presenting a budget total of \$4,014,571,124 (see the section *Budget*, above), and opposing further tax reduction save in the form of special remissions or returns of taxes in years in which the Treasury surplus should warrant it. Harry B. Hawes, of Missouri, and David I. Walsh, of Massachusetts, both Democrats, were sworn in as Senators on the opening day. Both succeeded Republicans. The death of Senator McKinley of Illinois, December 7, further reduced the Republican Senate contingent.

The impeachment of Federal Judge English, voted by the House in the previous session, was dismissed by the Senate, December 11, since Judge English had resigned between the time of his impeachment and that set for his trial. Frazier of North Dakota (Progressive) was restored to his committee rights, with full seniority, by action of the Senate committee on committees, December 11, after two years of deprivation by reason of his having been excluded from the Republican Senatorial group after the 1924 national election. The House passed, December 9, a measure to increase the salaries of Federal judges; that of the Chief Justice to \$20,500, those of Supreme Court members to \$20,000, circuit court members to \$12,500, and district court members to \$10,000. The measure, previously passed by the Senate, was signed by the President, and was to go into effect Jan. 1, 1927. Garner of Texas offered a measure for permanent further reduction of income taxes, in opposition to the position taken by the President in his message. This measure had considerable support in the Senate among Garner's fellow Democrats, but was tabled, December 11, by the Senate committee on ways and means. The House passed, December 10, the Treasury-Post Office supply bill, carrying \$137,371,000 for the Treasury and \$753,483,000 for the Post Office Department. Opponents of the Prohibition enforcement policy offered amendments to reduce appropriations for the Prohibition services of the Coast Guard, but were defeated. A portion of the bill allowing \$500,000 for payment of so-called under-cover work of Prohibition agents, continuing the practice of the previous year, was eliminated. The House ways and means committee adopted, December 11, a bill embodying recommendations of the President in his message for the return of alien property seized during the War period. McNary of Oregon introduced in the Senate, December 14, a bill presenting, with alterations, his scheme of relief for agriculture. The new bill retained the revolving fund, to be supplied from the Treasury, and the equalization fund to be collected from possessors of designated staples, and added cotton to the list of farm commodities benefiting by the act. Frank L. Smith, Senator-

elect from Illinois for the ensuing term, was appointed by Governor Small of Illinois, December 16, to fill previously the unexpired term of the late Senator McKinley.

**ADMINISTRATION.** *The President.* Mr. Coolidge, in a message to Congress, January 4, advocated acceptance of the invitation of the League of Nations to participate in a preparatory conference on limitation of armaments. With regard to defense aviation plans, he supported the budget appropriations, and the House committee on naval affairs was reported, on March 14, to have assurance of his approval of the measure for a five-year building programme. With regard to legislation for relief of agriculture, the President refrained, until June 25, from any public announcements in favor of one or another of the measures brought forward in Congress. Then he issued a statement indorsing the farm marketing bill of Senator Fess. He was subjected to attack, on this account, by Senators and Representatives identified with farming sections. The Senatorial primary election in Iowa in July was, consequently, considered a test of the attitude of the agricultural element toward the President, and its result, the Republicans' nomination of Brookhart, was deemed an adverse result. The President maintained his previous policy of abstention from interference in the anthracite strike despite efforts in Congress to bring about his intervention. The end of the strike came in February.

Mr. Coolidge sent his annual message to Congress on December 7. Foremost among its recommendations was that for a reduction of the March 15 and June 15 income-tax payments of 1927, to constitute a refund on tax payments previously collected, in excess of Treasury needs. Creation of a Federal board of radio broadcasting control with power to assign radio wave lengths to broadcasting stations, and with administrative collaboration from the Department of Commerce, was advocated. The message proposed to Congress that it create a board of conciliation and mediation, acting under the President, to deal with labor troubles in the coal-mining industry, and that administrative agencies receive power to distribute coal in seasons of shortage. With regard to agriculture, the message advocated extension of the system of cooperative marketing associations, some revision of freight rates, and efforts to provide cheap fertilizers. Continuance of river and harbor improvements on a moderate scale was urged; construction of new merchant ships, save at cost not above prevailing sale prices, was discouraged; enactment of a law to regulate branch banking and provide for renewal of the Federal Reserve Bank charter was urged; a Federal anti-lynching law, rubber development in the Philippines, avoidance of armament competition, an act to enable the Supreme Court to make rules for Federal district courts, and legislation to provide return of alien property, were also recommended. The message strongly stressed the importance of Government economy as a continuing policy. Prohibition was pronounced "the law of the land," and failure to observe and support the law was strongly condemned.

Addressing the annual congress of the Daughters of the American Revolution, the President, April 19, spoke against the failure of many American citizens to exercise the franchise. In a Memorial Day address at the Arlington Na-



tional Cemetery, he praised economical and sound government finance as a form of safeguard in respect to risk of war.

An address that was delivered by President Coolidge on April 8, on the occasion of the laying of the cornerstone of the National Press Club, at Washington, presented in a general way his views on what should be the guiding principles of the Nation's foreign policy. He demanded "a friendly attitude of mind" toward other peoples, and the adoption of "proper instruments and institutions" for maintaining international relations. Among these he mentioned the World Court. He spoke also on behalf of limitation of armaments, and for "intellectual and moral disarmament."

In a speech, May 15, at Williamsburg, Va., at the celebration of the sesqui-centennial of the adoption of the Virginia independence resolutions, the President declared that "the States should not be induced by coercion or by favor to surrender the management of their own affairs," and warned against the tendency to enlarge the sphere of Federal activity. Before the congress of the Pan-American Red Cross at Washington, May 25, he advocated the policy of international coöperation in the field of this society. A warning against increase in the cost of governmental bodies other than Federal was expressed in an address, June 20, before business heads of the administration. A speech at the Philadelphia Sesqui-Centennial, July 5, expressed the President's views on American ideals in the political realm as founded on moral and religious conceptions.

President Coolidge's Armistice Day speech at Kansas City, Mo., contained a statement of his intention not to ask the Senate to modify its reservations, in any further effort to effect entry of the United States into the World Court. He spoke also of the need for adequate national defense, and referred to reports of ill feeling toward America in Europe.

Carmi A. Thompson of Ohio, a personal friend of President Coolidge, was deputed by the President, April 2, to visit the Philippine Islands and study their economic and political conditions and needs, on which he was thereafter to report to the President. After an extended tour through the islands and conferences with native leaders and American residents and authorities, Colonel Thompson submitted, December 4, a report to President Coolidge on his observations as to the state of the Philippines. This report, as published December 22, recommended an indefinite postponement of the granting of independence to the islands and the gradual extension of internal autonomy to them. See PHILIPPINES.

President Coolidge issued, May 21, an executive order giving permission to persons already in the official service of States or of State subdivisions to serve simultaneously as Federal officers, at nominal salaries, and thereby to gain authority to cross county and State boundaries in proceeding against offenders under the Federal Prohibition statutes. The order ran contrary to the tenor of a preceding order as to dual service, that issued by President Grant in 1873, declaring the dual relation forbidden. The Coolidge order gave immediate occasion for nation-wide discussion, and, encountering much adverse comment, was not at the time universally applied.

Georges Clémenceau, retired French statesman,

addressed to President Coolidge in August an open letter of protest against the policy of the United States Government in regard to the funding of the War debt of the French Government, which policy he characterized as too severe to permit of the maintenance of French economic independence. The communication being unofficial, President Coolidge, refrained from commenting on it or replying to the writer.

President Coolidge arrived, July 7, for a stay of two months at Lake Osgood, in the Adirondacks, New York State. While absent from the capital the president refrained almost altogether from taking a part in the campaign for the election of the members of the 70th Congress. He made an exception in the case of Senator Butler of Massachusetts, in a statement in which he characterized Mr. Butler as valuable to the Administration and as an interpreter and supporter, in the capitol, of the Administration's plans. Mr. Coolidge returned to Washington September 18.

The President's father, John C. Coolidge, died March 18, at the family home at Plymouth, Vt., his death occasioning a brief trip of the President and Mrs. Coolidge to Plymouth.

**CABINET.** The composition of the Cabinet remained unchanged throughout 1926, being as follows: Secretary of State, Frank B. Kellogg; Secretary of the Treasury, Andrew W. Mellon; Secretary of War, Dwight F. Davis; Attorney-General, John G. Sargent; Postmaster-General, Harry S. New; Secretary of the Navy, Curtis D. Wilbur; Secretary of the Interior, Hubert Work; Secretary of Agriculture, William M. Jardine; Secretary of Commerce, Herbert C. Hoover; Secretary of Labor, James J. Davis.

**FOREIGN RELATIONS.** Customs increases in Turkey applying to American goods, and interpreted as amounting to eight times the duty levied on goods of other countries protected by commercial treaties, occasioned the lodging of a protest by the United States January 7. The Lausanne Treaty, establishing relations with Turkey, was not ratified during the year.

The force of marines at Bluefields, Nicaragua, was withdrawn June 5.

Secretary Kellogg, March 2, addressed to the Mexican Ambassador a supplementary note on the matter of the Mexican land laws as affecting the rights of American owners.

General Lassiter, chairman of the Tacna-Arica plebiscite commission, presented to the commission, June 10, a resolution declaring that it was impossible to carry out the plebiscite.

A treaty establishing closer relations between the United States and Panama was signed July 28. The terms of this treaty, published December 20, provided for the coöperation of the Republic of Panama with the United States in case of war. See PANAMA.

The Supreme Council of the Knights of Columbus, a national organization of Roman Catholic laymen, issued, August 7, a statement in which it protested against the enforcement of the Mexican laws regulating religious bodies, aimed at its coreligionists; it called for the withdrawal of the standing embargo on the shipment of arms to Mexican destinations; and urged that the United States extend protection to American citizens affected by Mexican governmental activity.

Because of its regulations and proceedings against the Roman Catholic clergy, the Govern-

ment of Mexico was condemned by lay organizations of that faith in the United States, and on August 13 James A. Flaherty, Supreme Knight of the Knights of Columbus, requested Secretary of State Kellogg to intervene in Mexico on the behalf of oppressed members of the faith. Secretary Kellogg declined to proceed upon the issue. James R. Sheffield, ambassador to Mexico, returned from his post and, August 25, reported to the Secretary of State at Washington. Soon thereafter he conferred with President Coolidge at the President's summer camp. Later, on September 8, the President stated that no change in the policy with regard to Mexico was contemplated. Allegations had been published in the meantime to the effect that shipments of arms to the Nicaraguan Liberal group, waging war on the administration in power, were passing from Mexican ports by sea. Gunboats of the United States Navy were reported, August 25, ordered to the Nicaraguan coast to prevent further such introduction of arms. The United States extended its good offices, September 12, to settle the Nicaraguan conflict.

The Department of State concluded, November 17, a treaty with Spain for the prevention of shipment of alcoholic liquor to the United States; this being the twelfth agreement of this kind concluded with a foreign government.

The approaching end of the year, bringing near the date of enforcement of the Mexican Federal laws curtailing the ownership, by Americans and other aliens, of lands in Mexico, led the State Department to renewed correspondence with the Mexican Government on the subject. Secretary of State Kellogg, October 30, and in subsequent notes, insisted that acceptance of the Mexican regulations amounting to partial expropriation of American property would be incompatible with the duty of the United States Government to protect its citizens' interests. Warships under Rear Admiral Latimer were ordered, December 7, to stations at Nicaraguan ports, with direction definitely to prevent the importation of arms into the country by the Sacasa faction. The action of the Mexican Government, taken at the same time, in granting recognition to the Sacasa government, placed the State Department in sharp opposition to Mexico. Admiral Latimer landed a force of marines, December 23, at Puerto Cabezas, the headquarters of the Sacasa party, declared the town neutral, and, according to press dispatches, required Sacasa and his followers to disarm or depart. The State Department issued a statement to the effect that appeals for protection had been received from American citizens in this area, and that Admiral Latimer had been instructed to afford them protection. See NICARAGUA.

Following the failure of the administration's efforts to bring about the Tacna-Arica plebiscite provided in the American arbitral award in the dispute between Chile and Peru, Secretary of State Kellogg presented a plan of solution, November 30, providing for the sale of the disputed area to Bolivia. Bolivia immediately expressed assent to the proposals, and the Chilean administration signified its acceptance of the plan in principle, leaving details for discussion. The unwillingness of Peru to part with its claims to the provinces on these terms caused delay in the Peruvian response.

THE SECRETARY OF THE TREASURY. Secretary

of the Treasury Mellon issued, January 4, a statement in support of the debt-funding agreements reached with Belgium, Italy, and other countries, as based on the economic ability of the debtor countries and as necessary to sound future economic relations between these countries and the United States. Early in June, Mr. Mellon expressed, in a communication to Representative Haugen, what was deemed the Administration's opinion against the McNary-Haugen bill for agricultural price correction. His words, "we shall have the unusual spectacle of the American consuming public paying a bonus to the producers of the five major agricultural commodities," were widely quoted, and drew much comment. The Secretary, in a letter to Senator Smoot, June 30, and again in November, following the tax rebate proposal emanating informally from the White House, expressed opposition to definitive tax reduction, and proposed retirement of indebtedness as whole or partial employment for Treasury surplus. A declaration of Secretary Mellon, in a letter to F. W. Peabody of Ashburnham, Mass., July 14, was published, and brought forth a rejoinder from the British Government, in statements to Parliament. These statements were elicited by Secretary Mellon's view that "England borrowed a large proportion of its debt to us for purely commercial as distinguished from war purposes. . . . Our loans to England were not so much to provide war supplies as to furnish sterling for home and foreign needs, and to save England from borrowing from its own people." In an extended statement, October 24, Mr. Mellon defended the United States tariff system.

DEPARTMENT OF JUSTICE. Prominent among the proceedings of the department were two anti-trust suits, one against the National Food Products Corporation and one against the Ward Food Products Corporation. In the first of these suits, a consent decree was obtained, March 4, to prevent the National Food Products Corporation from combining chain-store groceries and dairy concerns. The Ward Food Products Corporation was in like manner prevented, by a consent decree entered April 3, from achieving a combination of three great baking companies, the Continental, the Ward and the General. Prosecutions under the national Prohibition act in the fiscal year, it was stated, resulted in sentences aggregating 5666 years, an increase of 1097 years over the highest previous annual aggregate, and in imposition of fines to the total of \$7,494,269. The oil-cracking suit instituted in 1924 against the Standard Oil Co. of Indiana, the Standard Oil Co. of New Jersey, the Texas Company and others, over the pooling of patents on the cracking process for production of gasoline, was extended by a supplementary petition allowed May 3, alleging that certain of the patents in question had been obtained by fraud. The case was brought to trial before a master in chancery in the northern district of Illinois. Cases against the United States in the Court of Claims numbered 2033 at the end of the fiscal year, with claims to the aggregate of \$1,744,817,495. The Federal penitentiaries were increasingly overcrowded, prior to the opening of the new reformatory at Chillicothe. The Atlanta penitentiary had in the year an average of 2972 inmates; the Leavenworth penitentiary, 3093; McNeil Island, 631. The Industrial Reformatory at Chillicothe, while formally put in service in

March, had to be reconditioned before being put to extensive use.

**CIVIL SERVICE.** The number of those employed in the executive civil service declined by 4013 in the fiscal year ending June 30, 1926. There were 202,846 persons examined for classified service, and 38,916 persons appointed.

**OTHER ADMINISTRATIVE ACTIVITIES.** The head of the Federal Prohibition Enforcement Bureau, General Andrews, made in the early part of the year a trip to several countries of Europe. He treated with the authorities there, in regard to details of steps to be taken to stop illicit importation of alcoholic drink into the United States by sea, as provided in agreements negotiated with those countries.

The Federal authorities refused permission to Madame Kollontai, the woman envoy of the Russian Soviet Government to Mexico, to enter United States territory on her journey from Europe to Mexico. She went accordingly by way of Cuba, reaching Mexico City December 8.

F. Trubee Davison was appointed Assistant Secretary of War for Aviation, and Edward P. Warner Assistant Secretary of the Navy for Aviation, the Senate confirming both July 2. The President appointed William P. MacCracken, Jr., of Chicago, August 9, to be Assistant Secretary of Commerce with charge of civil aviation development.

Sentence upon Col. William Mitchell, the United States Army air officer found guilty by a court martial for criticizing the air activities of the War and Navy Departments, was modified by President Coolidge, January 25. The President confirmed the five years' suspension of Mitchell from service, but restored his allowances and one-half his base pay. Colonel Mitchell tendered his resignation from the Army January 27, and it was accepted.

The Sugar Equalization Board, formed in war time, was dissolved July 13. Its activities, mainly in the stabilization of prices on the 1917-1918 sugar crop, had yielded a total profit of some \$41,000,000.

The Federal Trade Commission made recommendations, September 5, that the prevailing practices in trading in contracts for future delivery of grain be modified.

To the board of mediation created by the law which abolished the Railway Labor Board, President Coolidge appointed Samuel E. Winslow, of Massachusetts, Edwin P. Morrow, of Kentucky, G. Wallace Hanger of the District of Columbia, Hywel Davies of California, and Carl Williams of Oklahoma. Under the Watson-Parker act, a Federal board of arbitration awarded, Dec. 2, wage increases averaging  $7\frac{1}{2}$  per cent to conductors and trainmen on the railroads of the Eastern section, totaling about \$15,000,000 a year, and settling a labor dispute of several months' standing.

The Shipping Board removed Capt. Elmer E. Crowley from the position of president of the Emergency Fleet Corporation, July 9, following differences as to policy. It elected as his successor Brig. Gen. A. C. Dalton. The Shipping Board voted May 26, by a vote of 4 to 2, to permit the sale of five lines of the American Oriental Mail to R. Stanley Dollar of San Francisco.

The Federal Oil Conservation Board opened hearings at Washington, February 10, with a view to laying plans to retard oil exhaustion. The report of the Board, published September 5,

stated the present available reserve of petroleum in the ground to be some 4,500,000,000 barrels, approximately six years' supply, only the oil in proved areas being reckoned. It placed the domestic investment in oil production at \$9,500,000,000. While extensive discussion had taken place in the Board's hearings as to whether more economical petroleum production was secured by coöperation or by single exploitation in individual fields, the report made no conclusive recommendations on this feature of the problem. It recommended extension of acquisition and development in foreign petroleum fields.

Reports of Canadian and American engineers on projects for the development of the St. Lawrence River as a waterway and source of hydro-electric power were submitted November 23. They differed in detail, the Canadian group favoring double-stage power dams, development of 2,619,000 h.p. and a total outlay of \$308,792,000; the American group advocated single dam development to provide 2,730,000 h.p. at a cost of \$290,172,000, of which \$167,720,000 represented the cost of navigation development.

**JUDICIARY.** *Progress of the Oil Cases.* The Circuit Court of Appeals, January 4, upheld the lower court in regard to its disposal of the Elk Hills naval oil reserve lease cancellation suit. A decision of the Circuit Court of Appeals, September 28, reversed that of Judge Kennedy in the lower court; it canceled as fraudulent the lease of the Teapot Dome area to the Sinclair interests and enjoined the Mammoth Oil Company, the operating organization, from trespass. Defendants' appeals against the District of Columbia indictments for conspiracy against Fall, Doheny, and Sinclair, were dismissed by the Court of Appeals of the District, October 2. The criminal suit against former Secretary of the Interior Albert B. Fall and the petroleum operator, Edward L. Doheny, for alleged conspiracy in the leasing of the Elk Hills naval oil reserve, on indictments found in the District of Columbia in 1924, was brought to trial in the District of Columbia court November 22. The jury rendered a verdict of acquittal, December 16, after a deliberation of 19 hours. Justice Bailey ruled, December 23, that the case involving charges against Fall and Harry F. Sinclair, of conspiracy in the leasing of the Teapot Dome naval oil reserve, should come to trial in the Supreme Court of the District of Columbia Feb. 2, 1927.

*Presidential Power of Removal.* Chief Justice Taft, in an opinion rendered in the Supreme Court, October 25, in the appeal of Myers vs. the United States, held that Myers, a first-class postmaster at Portland, Ore., removed in 1920 by the Postmaster General, under direction of the President, in apparent contravention of an act of 1876 restricting Presidential power of removal of postmasters without Senate consent, was removed validly. The opinion went extensively into the general question of the constitutionality of statutory measures of restriction on the Executive power of removal, and laid down a broad doctrine of the invalidity of legislative curtailments of this power.

*Decisions Relative to Prohibition.* The Supreme Court in a decision rendered November 29 affirmed the constitutionality of the Prohibition law in respect to restricting the medical prescriptions of alcoholic beverages. The court was divided 5 to 4.

The question whether the prosecution of an

offender against prohibition laws, in both Federal and State courts, for the same act, under concurrent laws of the Union and of the individual State, imposed double jeopardy forbidden in the Constitution, was passed upon by the Supreme Court Nov. 1 in a case of alleged double prosecution. The court found that an offense against a Federal statute and one against a State statute constituted two distinct offenses, even though they were comprised in a single act; it held, accordingly, that double prosecution did not in such case occasion double jeopardy.

**Statutory Prohibition of Strikes.** Justice Brandeis of the U. S. Supreme Court, in a decision rendered October 25 in *Dorchy vs. the State of Kansas*, sustained the constitutionality of the Kansas court of industrial relations act, in respect to its provision for punishing anyone inducing or ordering others to take part in an unjustifiable strike. This provision of the act was specifically held to remain valid, in spite of an earlier Supreme Court decision invalidating that portion of the act which provided for compulsory arbitration.

**Alien Property Prosecution.** Former Attorney General Harry M. Daugherty and former Alien Property Custodian Thomas H. Miller were charged, May 7, by a Federal indictment, with conspiracy to defraud the Government, in regard to the disposal of a seized concern, the American Metal Company, to representatives of the former alien enemy owner interests. They were placed on trial September 5 in the Federal District Court at New York. Mal S. Daugherty, an official of the Midland National Bank, of Washington Court House, Ohio, testified that his brother, Harry M. Daugherty, destroyed bank records which the prosecution wanted produced to show money payments asserted to have been made to the defendant's benefit. The jury failed to agree.

**UNITED STATES MILITARY ACADEMY.** A government institution at West Point, N. Y., for the theoretical and practical training of cadets for the military service of the United States; opened in 1802. On Sept. 1, 1926, the total number of cadets was 1174, distributed as follows: first class, 210; second class, 263; third class, 345; fourth class, 356. There were 169 members on the faculty. The academy is a component part of the regular army of the United States and is maintained solely by appropriations from the War Department, which in 1926 were \$970,131 for salaries and the maintenance of public works, and \$700,000 for continuing construction. A new mess hall, cadet store, dormitories, and a drawing academy were under construction during the year. The library contained 108,000 volumes. Superintendent, Brigadier General Merch B. Stewart, U. S. A.

**UNITED STATES NAVAL ACADEMY.** A school for the education and training of midshipmen, at Annapolis, Md.; founded in 1845. The total number of midshipmen at the beginning of the academic year 1926-27 was 1695, distributed as follows: first class, 589; second class, 213; third class, 316; fourth class, 577. The faculty numbered 209. The library contained 63,390 volumes. Midshipmen after graduation are commissioned as ensigns in the United States Navy, and occasionally to fill vacancies in the Marine Corps and in certain staff corps of the Navy. Appointments for admission to the Academy are made by each Senator, Representative, and Delegate in Congress, and appoint-

ments from the District of Columbia and the United States at large are made by the President. Also, the Secretary of the Navy is authorized to appoint annually 100 enlisted men of the regular Navy and Marine Corps, and 25 enlisted men of the Naval Reserve and the Marine Corps Reserve. Superintendent, Rear Admiral L. M. Nulton, U.S.N.

**UNIVERSALISTS.** A religious denomination existing chiefly in the United States, Canada, and Japan. It holds as parts of its doctrine, the universal fatherhood of God and the final harmony of all souls with God. Its churches are grouped in 28 State conventions and eight State conferences. A general convention, held biennially, met in 1925. The number of churches in 1926 was 624; ministers, 348; communicants and adherents, 88,097; Sunday schools, 440. The denominational periodical, the *Christian Leader*, is published weekly. Headquarters of the denomination are at 176 Newbury Street, Boston. The Rev. John Murray Atwood was president of the general convention.

**UNIVERSITIES AND COLLEGES. STATISTICS.** The latest available statistics for universities, colleges, and professional schools at the end of 1926 were those reported by the United States Bureau of Education for the year ending June, 1924. Briefly summarized, the statistics are as follows: There were 913 universities, colleges and professional schools that reported. Of these 144 were under public control. There were 165 schools of theology, 124 schools of law, 80 schools of medicine, 43 schools of dentistry, 63 schools of pharmacy, 6 schools of osteopathy, and 12 schools of veterinary medicine.

There were 44,345 men and 11,934 women employed as professors and instructors.

The total number of students enrolled in all of the institutions was 726,124. Of this number, 457,701 were men, and 268,423 were women. There were 18,444 men and 10,355 women in graduate departments. Schools of theology enrolled 12,356 students; schools of law, 35,732; schools of medicine, 18,900; schools of dentistry, 12,947; schools of pharmacy, 9951; schools of osteopathy, 1117; and school of veterinary medicine, 511. The schools of engineering enrolled 57,699 students.

The value of the grounds belonging to all of the institutions was \$168,257,572. The estimated value of the buildings was \$137,417,736; of libraries, apparatus, and furniture, \$175,323,131; and the productive funds amounted to \$814,718,813.

The total receipts for the year ending June, 1924, were \$388,242,567. The following amounts were received from the sources indicated: Student fees, \$81,171,612; room rent and board, \$36,963,607; productive funds, \$40,431,608; State and city, \$96,252,549; United States Government, \$13,641,424; and private benefactions for endowments, increase of plant, and current expenses, \$81,734,738.

The enrollment in institutions of higher learning had increased more than 445 per cent in the 34 years since 1890. This was about six times as great as the increase in population for the same period. During this same period, however, the number of those enrolled in the secondary schools and preparing for college increased .951 per cent, or more than twice the increase in college enrollment.

Prof. Raymond Walters collected statistics of registration for 1925-26 from 178 institutions

on the approved list of the Association of American Universities. The tabulated results appeared in *School and Society*, Jan. 8, 1927. The enrollment of full-time students was 11 per cent greater than in the preceding year.

The enrollment of full-time regular students in the 10 largest universities was as follows: California, 17,101; Columbia, 12,643; Illinois, 11,810; Minnesota, 10,718; Michigan, 9,597; New York University, 9,357; Ohio State, 9,209; Pennsylvania, 8,533; Wisconsin, 8,220; and Harvard, 7,993. The enrollment of all resident students including part-time and summer session students in 5 of the larger institutions was as follows: Columbia, 30,562; California, 24,756; New York University, 20,504; College of the City of New York, 17,438; and Minnesota, 15,585.

The following statements are quoted from the report:

The enrollment of men undergraduates in the five largest liberal arts colleges or departments is as follows: California (including southern branch), 3,851; Wisconsin, 3,504; Michigan, 3,348; College of the City of New York, 3,287; Harvard, 3,278.

The size order for women undergraduate enrollment in the five largest coeducational universities is as follows: California (including southern branch), 5,458; Wisconsin, 2,660; Illinois, 2,107; Minnesota, 1,787; Michigan, 1,512.

The ten largest exclusively women's colleges are Hunter, 3,448; Smith, 2,085; Wellesley, 1,546; Florida State College for Women, 1,318; Vassar, 1,144; Goucher, 1,046; Mount Holyoke, 1,006; Radcliffe, 849; Randolph-Macon Woman's College, 822; Elmira, 582.

The order of size in the 1926 summer schools, for the ten largest, is as follows: Columbia, 13,219; California, 10,668; Chicago, 6,532; Wisconsin, 5,060; Minnesota, 4,867; University of Southern California, 4,018; College of the City of New York, 3,526; Nebraska, 3,355; Michigan, 3,320; Colorado, 3,227; Texas, 2,972.

The American Association of University Professors, through a committee, gave consideration to the problems involved in the selection, retention, and promotion of undergraduates. The report voices the fear that, in the limitation of numbers, worthy students will not be discovered. Among the proposals offered in regard to the selection of students are the following: Each institution should determine the largest number of undergraduates that it can teach effectively, then limit their enrollment to this number and make public announcement of such limitation. There should be a director of admissions who should be chairman of the faculty committee, with authority to act. Graduation of candidates should be on the basis of intellectual achievement and promise. No one should be admitted with conditions. Intelligence tests to supplement other tests should be used, but not as a substitute for scholastic preparation. The comprehensive examinations in four fundamental subjects, with reasonable flexibility in others, should be adopted. Every college should establish scholarships, and revolving or other loan funds which may be used to help unusually gifted students who could not, without such financial assistance, apply their whole effort to the college work.

**NEW PRESIDENTS.** During the year the following new presidents of universities and colleges were reported: J. C. Carmichael was made president of the Alabama College for Women, at Montevallo, to succeed the late Dr. T. W. Palmer. Dr. James Albert Beebe was elected president of Allegheny College, Pittsburgh, Pa. Dr. J. A. Rolman became president of Anderson College, Anderson, S. C. Dr. J. R. Grant accepted the

presidency of Arkansas Polytechnic College. Dr. Harry Lathrop Reed was installed as president of Auburn Theological Seminary, Auburn, N. Y. Prof. E. B. Gates was elected president of Blackstone College, Richmond, Va. Dr. David D. Jones was chosen the new president of Bennett College for Women, Greensboro, N. C. Daniel L. Marsh became the president of Boston University. Dr. Park R. Kolbe was inaugurated as president of Brooklyn, N. Y., Polytechnic Institute. Frederic R. Hamilton was made president of Bradley Polytechnic Institute, Peoria, Ill.

Dr. Carlyle Campbell was elected president of Coker College, Hartsville, S. C. Dr. Samuel J. Vaughn became president of Colorado Women's College, Denver, Colo. Samuel H. Whitley was inaugurated as president of East Texas State Teachers' College. Thomas Elsa Jones was elected president of Fisk University, Nashville, Tenn. Supt. Harvey Allen was made president of Findlay College, Findlay, Ohio. Dr. Charles M. Snelling was elected Chancellor of the University of Georgia, Athens, Ga., to succeed Dr. David C. Barrows. Mordecai W. Johnson was appointed president of Howard University, Washington, D. C., its first negro president. Clarence Paul McClelland, D.D. was inaugurated as president of Illinois Woman's College, Jacksonville, Ill. Dr. Albert Britt was made president of Knox College, Galesburg, Ill. Col. Campbell C. Hodges was elected president of Louisiana State University, Baton Rouge, La.

Dr. Harold S. Boardman was installed as president of the University of Maine, Orono, Me., to succeed Dr. C. C. Little. A. C. Olney accepted the presidency of Marin County Junior College, California. Dr. Raymond Allen Pearson accepted the presidency of the University of Maryland, Baltimore, Md. Edward M. Lewis was made president of Massachusetts Agricultural College, Amherst, Mass. Bishop U. V. W. Darlington became president of Morris Harvey College, Barboursville, Va. Bowman W. Ashe became president of the University of Miami, Florida. George W. Rightmire was chosen president of Ohio State University, Columbus, Ohio. Dr. A. E. Vestling was made president of Olivet College, Olivet, Mich. Dr. Arnold Bennett Hall was inaugurated as president of the University of Oregon, Eugene, Ore.

A. B. Hill, State Superintendent of Arkansas, was made president of Ouachita Baptist College, Arkadelphia, Ark. Dr. Ralph D. Hetzel was elected president of Pennsylvania State College, State College, Pa. The Rev. C. J. McCoy was made president of the University of Santa Clara, California. Miss Marion Coates was to be the first president of the new junior college at Bronxville, N. Y. This college was to be known as the Sarah Lawrence College. Dr. Joseph A. Cooper was elected president of Sioux Falls University, Sioux Falls, S. D. Ludd M. Spivey was inaugurated president of Southern College, Lakeland, Fla. Charles E. Beury was elected president of Temple University, Philadelphia, Pa., to succeed the late Russell H. Conwell. James L. Robb was made president of Tennessee Wesleyan College.

L. H. Hubbard was chosen president of Texas College of Industrial Arts. Dean E. Clyde Zander began work as president of Thiel College, Greenville, Pa. Dr. E. A. Smith was elected president of the University of Toledo. The Rev. Dr. Henry

Sloane Coffin, for 21 years pastor of the Madison Avenue Presbyterian Church, New York, was inaugurated president of Union Theological Seminary, New York, to succeed the Rev. Dr. Arthur C. McGiffert. The Rev. Benjamin Rice Lacy became president of Union Theological Seminary, Richmond, Va. C. B. Goulding was elected president of Urbana Junior College, to succeed President Henry Schradeich.

W. H. T. Dau was made president of Valparaiso University, Valparaiso, Ind. The Rev. James Griffith was appointed president of Villanova College, Villanova, Pa. Louis B. Hopkins was elected president of Wabash College, Crawfordsville, Ind., and Clarence A. Short of Wesley Collegiate Institute, Dover, Del. Dr. Homer E. Wark was inaugurated president of West Virginia Wesleyan College, Buckhannon, W. Va. Rev. John Edgar Park was elected to succeed the late Dr. Samuel V. Cole as president of Wheaton College, Norton, Mass.

**GIFTS AND BENEFACTIONS.** Gifts of \$100,000 and more are given below:

Barnard College received \$110,000 from the late Mrs. Mary E. Larkin Joline. Frank A. Munsey left by will \$250,000 to Bowdoin College. Hegeman Hall, Brown University, was built by a gift of \$250,000 from the estate of John R. Hegeman. The University, of Buffalo received \$100,000 from the late John D. Larkin for the endowment of the school of chemistry. William Randolph Hearst gave \$1,000,000 to the University of California. The Southern Branch of the University of California received nearly \$5,000,000 from William A. Clark, Jr. Columbia received from Frederick W. and Harold S. Vanderbilt \$500,000 to rebuild the Vanderbilt Clinic at the new medical centre and from Mrs. Annie C. Kane \$1,000,000. The University of Chicago received from Frank P. Nixon \$200,000 toward the development fund; from the Carnegie Corporation \$1,385,000, to establish a library school; from the General Education Board \$3,385,000 for the new medical school, condition upon raising \$2,000,000 more; from George Herbert Jones, a director of the Inland Steel Co., \$415,000 to be used for the construction of a chemical research laboratory.

The Connecticut College for Women was to receive over \$100,000 from D. H. Fanning of Worcester, Mass. Dartmouth College received an anonymous gift of \$1,000,000. The University of Denver received a gift of \$100,000 from Verner Z. Reed. James L. Minor gave property valued at \$100,000 to the George Peabody College for Teachers. Harvard received over \$3,000,000 from the estate of Augustus Coe Burnee; from Mrs. Elizabeth Clark Rogers, \$300,000 for the medical school; from the alumni, \$500,000; from the General Education Board a conditional \$750,000 toward legal research.

The committee of the Hampton-Tuskegee Universities Endowment Fund announced that \$5,000,000 to be pledged to meet the conditions of a \$2,000,000 gift from George Eastman had been obtained; John D. Rockefeller, Jr. gave \$1,000,000 of it. Johns Hopkins received two gifts of \$100,000 each from Mr. and Mrs. Henry Walters and Mr. R. Brent Keyser. Illinois Wesleyan University received an annuity gift of \$100,000 from Dr. George C. Lewis and Mrs. Ella Beach Lewis. King's College at Bristol, Tenn., received \$100,000 from Richard S. Reynolds. Leland Stanford, Jr., University and the California Institute

of Technology received grants amounting to \$600,000 from the Daniel Guggenheim Fund for Promotion of Aeronautics. Charles Hayden, a New York banker, gave \$100,000 to the Massachusetts Institute of Technology for dormitories. The new University of Miami received land and cash to the value of \$5,000,000 from George E. Merrick, the founder of Coral Gables; \$1,000,000 from Victor Hope, real estate dealer; \$200,000 from J. C. Penney, head of a chain of department stores; \$100,000 from Frederic Zeigen, banker; \$100,000 from Frank B. Shutts, lawyer and publisher; \$100,000 jointly from Thomas O. H. Dupre and Dr. C. A. Hassell, real estate men; \$100,000 from Vance Helm and associates; and \$100,000 from W. E. Walsh and associates.

Robert P. Lamont, president of the American Steel Foundries Co., gave to the University of Michigan \$100,000 for a Woman's League building. Mount Union College received \$300,000 from the General Education Board for its endowment. New York University received \$602,168 from the Nichols Foundation, Inc., to construct the William H. Nichols Building for chemistry. Northwestern University received from Mrs. A. Montgomery Ward \$4,000,000 for the use of the medical and dental schools, and \$100,000 from the Carnegie Corporation of New York for the school of music. L. Wentz established a foundation and endowed it with \$100,000 as a loan fund for students of the Oklahoma Agricultural and Mechanical College and the University of Oklahoma.

The University of Pennsylvania received from Mr. and Mrs. Henry Phipps \$500,000 to be devoted to the welfare of Phipps Institute, founded by Mr. Phipps; also \$100,000 from the children of Dr. C. C. Harrison in the interest of the museum; and from Martin Maloney \$250,000 for a medical clinic building.

A new institution announced during the year, and typical of increased interest in Spanish relations and studies, was a centre for Spanish scientific men in New York. The Spanish government was to furnish the site. Princeton University received a share in the residuary estate of Mrs. Mary E. Larkin Joline amounting to \$100,000; from Edward W. Bok \$150,000 to endow a chair of English to be known as the Woodrow Wilson Professorship of English; from the General Education Board \$1,000,000 for chemistry, conditional upon raising \$2,000,000 more; from Charles W. Lummis the residue of his estate, which is to be used for scholarships when it accumulates to \$200,000; from John Kennedy Tod, retired banker, \$250,000; from Thomas D. Jones \$150,000; from John D. Rockefeller, Jr. \$150,000 for additions to the gymnasium.

Rollins College received \$100,000 from Mrs. Homer Gage and Mrs. George E. Warren. The late Dr. Dwight William Tryon left to Smith College the sum of \$355,340; Dr. Tryon was head of the art department for 33 years. A fund of more than \$100,000 was donated to Swarthmore College by Mrs. Isaac H. Clothier of Philadelphia. Talladega College, Alabama, will receive over \$100,000 from the late D. H. Fanning of Worcester, Mass.

Teachers College, Columbia University, received \$300,000 by the will of Mrs. Mary Clark Thompson, and \$100,000 from Mrs. Richard M. Hoe. The late William J. McDonald bequeathed the residue of his estate, approximately \$1,490,-

000, to the University of Texas for an astronomical observatory. The sum of \$150,000, which was left by the late Charles W. Cook for a dormitory for Trinity College, has been released by the death of Miss Jennie M. Cook. Tufts College received the sum of \$135,000 by the will of Eugene M. Niles. The late William Ratcliffe Irby left about \$1,000,000 to Tulane University.

Tuskegee Institute received \$650,000 from Mrs. Annie C. Kane. Vanderbilt University received \$650,000 from five members of the Vanderbilt family.

Vassar College received \$300,000 by the will of Mrs. Mary Clark Thompson. The University of Virginia received \$100,000 from the General Education Board. Through an anonymous gift of \$100,000, Washington College, Topeka, Kan., established a course in Americanism. Horace C. Henry, of Seattle, Wash., gave his \$400,000 art collection to the University of Washington, and offered to furnish a new \$100,000 building to house it. Washington University at St. Louis received \$100,000 from Mrs. William Eliot Smith. Henry I. Harriman gave \$200,000 to Wesleyan University for a dormitory to house 100 students. Wesleyan College, Macon, Ga. (for women) received \$100,000 from B. M. Duke.

Western Reserve University received a grant of \$975,000 from the General Education Board, for medical work. Williams College received \$300,000 from Mrs. Mary Clark Thompson. Yale received from William W. Crapo \$100,000; from George St. John Sheffield \$600,000 and to the Sheffield Scientific School was granted \$300,000 under the same will. Yale also received from the sons and daughters of Charles Bingham \$1,000,000, half to be used for a dormitory.

**EDUCATIONAL BOARDS AND FOUNDATIONS.** *The Carnegie Corporation* is discussed in a special article under that head.

*The Carnegie Foundation for the Advancement of Teaching.* The total resources of the foundation are \$29,356,000. Of this, \$15,860,000 is held as general permanent endowment, \$1,346,000 as endowment for the Division of Educational Enquiry, \$11,032,000 as a reserve for liquidating pension obligations after 1928, \$793,000 to assist institutions to adopt the new contributory plan of retiring annuities; and \$525,000 as emergency reserve.

*The Commonwealth Fund.* The seventh annual report of the Commonwealth Fund showed endowment amounting to \$27,761,000, Sept. 30, 1925. Since then Mrs. Stephen V. Harkness, the founder of the fund, had donated \$11,000,000 more. Gifts for the fiscal year ending Sept. 30, 1925, amounted to \$1,339,000. Approximately \$847,000 was given to different organizations having to do with child welfare. A total of \$425,000 was appropriated to four organizations which deal with child guidance and the prevention of delinquency. Appropriations totaling \$241,000 were made for the child health program, which includes community demonstrations in Fargo, N. D.; Athens, Ga.; Rutherford County, Tenn.; and Marion County, Ore. A grant of \$100,000 was made for a child health programme in Austria. The division of education awarded 20 fellowships to British graduate students for study in American universities. The appropriation for these scholarships was \$112,000. Educational research cost \$85,000.

*Laura Spelman Rookefeller Memorial.* The report of this foundation for 1925 showed that ap-

propriations amounting to \$7,882,890 had been made. Of this sum, \$3,495,960 was paid during the year. The income for the year was \$4,096,437. Among the various gifts that were made the following are noteworthy: For fellowships in the field of social science, \$155,000 was appropriated, for the support of 37 fellowships in foreign countries. The sum of \$40,000 was appropriated for 15 fellows in the United States. A total of \$787,800 was appropriated for child study and parental education.

**NEW INSTITUTIONS AND DEPARTMENTS.** *Aéronautics.* The Daniel Guggenheim Fund for the Promotion of Aeronautics announced two grants to California institutions. See **AERONAUTICS**.

*Bryan Memorial University.* The Governor of Tennessee formally accepted the site for the Bryan Memorial University, at Dayton, Tenn. Ground was broken for an administration building, and gifts were received for other buildings.

*The Juilliard School of Music.* Under the provisions of a charter granted to the Juilliard School of Music, the Institute of Musical Art of New York City and the Juilliard Graduate School of Music were merged. The Institute of Musical Art had been in operation for many years, and in 1926 had more than 1000 students. The Juilliard Graduate School of Music was organized in 1923 and in 1926 had about 175 students. The new institution was to have an endowment of at least \$1,000,000, which may be used for scholarships.

*Graduate Library School at the University of Chicago.* A graduate library school was established at the University of Chicago. A gift from the Carnegie Corporation made this school possible. The announcements of the school indicate a wide range of technical courses as well as general cultural courses.

*New School of Library Science at Columbia University.* The New York State Library at Albany and the Library School of the New York Public Library were combined to form the School of Library Service of Columbia University. See **LIBRARY PROGRESS**.

*Scripps College for Women.* Plans were under way for the opening in September, 1927, of a new college for women at Claremont, Calif., named Scripps College, which was to be a part of the scheme of collegiate federalism known as "Claremont Colleges" which had begun with Pomona College. In this scheme each college was to have its own board of trustees and its own faculty, its own buildings and equipment, but the opportunities of each college, such as admission to courses given in one and not in the others, were intended to be at the disposal of all students irrespective of the institution in which they were enrolled. The distinctive features of Scripps College were to be: Limitation of enrollment to 250 students; limitation of the curriculum to a certain number of basic subjects; and intimate and personal methods of instruction. It was planned to receive a freshman class of about 50. Students were to pay an inclusive fee of \$1000, to cover tuition, board, room and other incidental fees. Until sufficient accommodations could be provided students were to make use of such facilities as laboratories and library provided by Pomona College, although it was intended that Scripps College should gradually build up its own plant.

*Experimental College at University of Wisconsin.* The University of Wisconsin started an



experimental college to test new curricula and teaching methods for the freshman and sophomore years. The college opened with 125 freshmen. It is proposed to take 125 freshmen in September, 1927, making a total enrollment of 250 students. Enrollment was limited to men, and is voluntary. Dr. Alexander Meiklejohn, former president of Amherst College, is the director of the college. The students will live together in a dormitory. They will work under a tutorial system. The college will experiment with the plan of organizing the work of the entire freshman year about one ancient civilization such as the Greek, while the work for the second year may be organized in a similar manner about some modern civilization.

**University World Travel School.** On Sept. 18, 1926, the Holland-America liner *Ryndam* left New York with 500 students, including 120 young women, for an 8 months' cruise around the world. The vessel was expected to call at 47 ports and to travel 50,000 miles. The faculty included fifty members. The president of the school was Dr. Charles F. Thwing.

**UNIVERSITY PROFESSORS, AMERICAN ASSOCIATION OF.** See UNIVERSITIES AND COLLEGES.

**UPPER AUSTRIA.** A constituent province of the new republic of Austria since the formation of that state, Nov. 12, 1918; formerly a crownland of Austria, before the collapse of the Austro-Hungarian Empire. Area, 4626 square miles; population, according to the census of 1923, 873,702. Capital, Linz, with a population of 101,347 in 1923.

**UPPER SENEGAL AND NIGER.** A colony under the government-general of French West Africa; officially known since Dec. 4, 1920, as French Sudan. See FRENCH SUDAN and FRENCH WEST AFRICA.

**UPPER SILESIA.** See POLAND.

**URANIUM MINERALS.** See GEOLOGY.

**URUGUAY,** ū'ru-gwā or ōō'rōd-gwī'. A republic of South America, bounded by Bolivia, Argentina, and Brazil. Capital, Montevideo.

**AREA AND POPULATION.** Area, 72,163 square miles; population, estimated, Dec. 31, 1924, 1,662,116. The chief cities with their populations on Dec. 31, 1924, were Montevideo, 422,499; Paysandu, 26,000; Salto, 30,000; and Mercedes, 23,000. The movement of population in 1924 was: Births, 41,880; deaths, 19,132; marriages, 9173. The immigrants in 1924 numbered 158,533; the emigrants, 173,883. The immigrants came chiefly from Spain, Italy, Brazil, France, Germany, Great Britain, and Argentina.

**EDUCATION.** According to figures given in the president's message, 1069 public schools were in operation throughout the country during the school year of 1925; 3015 teachers were employed; the total enrollment of pupils amounted to 129,720, with an average daily attendance of 100,292. In addition, there were 64 night schools for adults, which were served by 378 regular and special teachers, with an enrollment of 7496 students and an average attendance of 4854; two schools for abnormal students, two deaf-mute schools, three open-air schools; one playground, and one school for abnormal children; also 21 traveling teachers, dental clinics, children's libraries, etc. Instruction was made more intensive in gymnastics, singing, modeling, dress-making, shopwork, commercial education, drawing, and languages. During the same year there were 153 private schools in the republic, as fol-

lows: Sixty-six elementary schools, 36 secondary schools, and 51 religious-order schools, or a total of 5 more than in 1924. The number of pupils in private schools was 19,156 in 1924, of whom 5610 went to lay schools, and 17,284 in 1925, of whom 3074 attended lay schools.

**PRODUCTION.** Uruguay is principally a pastoral country, 60 per cent of the total area being devoted to the stock-raising industry, 20 per cent to mixed farms and ranches, and only 5 per cent to agriculture. For the latest available statistics on agriculture and production in general, see preceding YEAR BOOK.

**COMMERCE.** According to the U. S. Bureau of Foreign and Domestic Commerce, the value of Uruguay's foreign commerce during the first six months of 1926 amounted to 97,124,050 pesos, as compared with 95,983,221 pesos during the same period in 1925, an increase of 1,140,829 pesos. Of these 1926 figures, 37,162,092 pesos represented imports and 59,961,958 pesos were exports.

**FINANCE.** The budget for 1925-26 called for a revenue of 43,086,702 pesos and an expenditure of 43,004,698 pesos. The public debt, on Dec. 31, 1925, was given as 119,545,857 pesos.

**COMMUNICATIONS.** In 1924, 11,341 steamers and sailing vessels, of 12,824,931 tons, entered the ports of the republic. Uruguayan railroads during the fiscal year ended June 30, 1926, showed an increase in net revenue from £741,642 in 1925 to £770,614 in 1926. Before 1917 there were 7 British railway companies in Uruguay, but during that year the government purchased the Uruguay East Coast Railway. During the same period the mileage has remained constant. There are 1314 miles of track in operation. The dividends paid during the year were at the same rate as for the fiscal year, June 30, 1925, 6.1 per cent. One of the subsidies under which the railways were operating expired, and others are due to be terminated in the near future. In spite of that fact, the North Western of Uruguay Railway, which was the road to suffer a deficit in its subsidy, showed an increase of over £12,000 in its net revenue. The Pan American Union reported in August that the national administration council had authorized the director of the state railways and tramways to contract for the electrification of the railroad from Belveder to Santiago Vázquez.

**GOVERNMENT.** Under the constitution as amended Jan. 3, 1918, legislative power is vested in a parliament of two houses, the chamber of representatives elected by universal suffrage of males over 18 years of age, and the senate chosen by an electoral college which is elected by popular vote. Executive power is vested in the president, elected by direct popular vote, and a national administrative council of nine members. President in 1926, José Serrato (elected for the term Mar. 1, 1923-Feb. 28, 1927); president of the administrative council, Luis Alberto de Herrera.

**HISTORY.** A national election was held in Uruguay on November 28 to select a successor to President Serrato, who was to retire from office Feb. 28, 1927. The successful candidate was Dr. Juan Campistegui, a member of the "Colorado" party. Dr. Campistegui, a journalist by profession (the founder of the newspaper *El Día*), had seen considerable service in the government of the republic, at one time serving as secretary of the treasury and at another as minister of the interior.



On November 16 diplomatic relations between Cuba and Uruguay were severed by the former country because of the statement made by the Uruguayan delegate to the League of Nations that the sovereignty of Cuba was restricted by the permanent treaty between Cuba and the United States. At the time no notice was taken of the incident, but the publishing of articles in many South American newspapers led Cuba to take action. The incident was shortly closed when the Uruguayan government stated that the articles were in no way official and were written by a person not connected with the government, although they purported to have been the work of Señor Guani, the Uruguayan representative to the League of Nations.

On September 13 the Chamber of Deputies ratified an extradition treaty with Brazil and an arbitration treaty with Salvador. On the same day, the treaty of obligatory arbitration with Spain was ratified. This treaty replaced the treaty of Nov. 21, 1902. The new treaty eliminates the exception contained in the old treaty that questions affecting constitutional principles of either of the signatory nations would not be subject to arbitration.

**UTAH. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 449,396. The estimated population on July 1, 1926, was 514,000. The capital is Salt Lake City.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	562,000	1,722,000 *	\$13,776,000
	1925	568,000	1,874,000 *	16,866,000
Wheat, winter	1926	149,000	3,129,000	3,348,000
	1925	145,000	3,190,000	4,147,000
Wheat, spring	1926	88,000	2,376,000	2,424,000
	1925	88,000	2,904,000	3,746,000
Potatoes	1926	17,000	2,465,000	2,588,000
	1925	15,000	2,400,000	3,192,000
Oats	1926	57,000	2,280,000	1,868,000
	1925	60,000	2,820,000	1,748,000

\* tons.

**MINERAL PRODUCTION.** The State led in 1925 in silver production in the United States, and was one of the leading producers of lead and copper. From production of gold, silver, copper, lead, and zinc it derived much the greatest part of the total value of its yearly mineral production, coal supplying most of the remainder. The five metals were produced to a total value in 1925 of \$82,701,394, and in 1924 of \$66,227,637. Copper, the leading metal in point of value of production in the State, was produced to the quantity of 236,486,540 pounds in 1925 as against 242,138,165 in 1924. Lead production rose to 306,669,824 pounds in 1925, from 233,910,875 in 1924. The production of zinc rose to 52,611,732 pounds in 1925, from 18,562,172 in 1924. That of silver was 21,276,689 fine ounces in 1925, as against 17,253,692 in 1924. Gold produced totaled 177,803 fine ounces in 1925 and in 1924, 146,486. Of coal there were produced 4,630,000 short tons in 1925, and 4,488,157 in 1924; the product for 1924 was valued at \$12,057,000. Among the other mineral products were asphalt, salt, iron ore, arsenious oxide, and gypsum. The total value of the State's mineral product, duplications excluded, was, in 1924, \$84,356,626; in 1923, \$86,221,000.

The mines of Utah in 1926 produced gold, silver, copper, lead, and zinc valued at \$81,971,000, a decrease of about \$730,000 from the output of 1925, according to estimates of the U. S. Bureau of Mines. Production of both copper and zinc surpassed that of any past year. The silver and lead, though large in quantity, were somewhat less than in 1925, and the gold output was slightly increased. The average prices paid for silver, copper, lead, and zinc decreased slightly, but the increased value of the zinc output was about equal to the decreased value of the silver production. Utah was first in the United States in the production of silver, second in lead, and third in copper. Decided progress was made in custom milling operations at International, Midvale, and Bauer. The gold production increased to about \$3,721,000. The silver output decreased to 19,186,000 ounces, but the production exceeded any year's except 1925. The value of the silver output decreased to \$11,972,000, or about 19 per cent, owing in part to the decrease in the average price. The production of copper increased to 255,540,000 pounds, and the value to \$35,265,000. The lead output decreased to 292,184,000 pounds. The value decreased to \$24,251,000, and the average price from 8.7 cents to about 8.3 cents a pound.

The zinc recovered from ore and concentrate leached or smelted increased to about 92,000,000 pounds, and the value to \$6,762,000.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$7,011,204. Their rate per capita was \$15.48, as against \$13.92 in 1924 and \$8.41 in 1917. Their total included \$3,475,591 for education, apportioned among the minor State divisions. Payments amounting to \$468,089 for interest on debt and \$2,501,597 for permanent improvements, added to the payments for maintenance and operation of departments, made the total of the year's State payments \$10,580,890. For highways was expended the sum of \$3,152,849, of which \$827,982 was for maintenance and \$2,324,867 for construction.

Revenue receipts of the State were \$10,811,835, or \$21.98 per capita. They exceeded by \$2,732,542 the total payments except those for permanent improvements, and, furthermore, exceeded by \$230,945 the total with these included. Excess receipts were applied to debt reduction. Property and special taxes formed 48.7 per cent of the revenue in 1925, as against 53.3 per cent in 1924 and 59.5 per cent in 1917. Their per capita rate was \$10.70 in 1925, \$12.08 in 1924 and \$5.76 in 1917. Earnings of the departments and compensation for officials' services furnished 6.3 per cent of the 1925 revenue; business and non-business licenses, 15.4 per cent. License receipts were derived chiefly from taxes on incorporated companies, on sales of gasoline, and on motor vehicles. The net indebtedness of the State on June 30, 1925, was \$7,843,250, or \$15.95 per capita, as against \$16.73 in 1924 and \$6.32 in 1917. The assessed valuation of property subject to State tax was \$665,451,862. The State tax levy was \$4,894,343, or \$9.95 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 2189. There were constructed in 1926, of new track, 6 miles of first and 26 miles of second track.

**EDUCATION.** The leading event in educational

progress in the State, according to C. N. Jensen, State superintendent of public instruction, was the state school survey. This survey included the institutions of higher learning as well as the schools. It was undertaken by a body of 16 experts in elementary, secondary or higher education, with John J. Tigert, U. S. commissioner of education, at the head. Under the system put in force in 1926 in accordance with a law of the previous legislature, none but holders of valid certificates issued by the State board of education might legally teach in the public schools. The requirement for those beginning to teach was made to include completion of a standard two-year normal-school course.

As reported by the State department of public instruction at the end of 1926, the school population of the State was 143,054. Students enrolled in public schools numbered 136,671; of these 110,695 were in elementary grades and 25,976 in high-school grades. Expenditure for public school education in the State in the scholastic year 1925-26 attained \$10,587,132. Salaries of teachers and principals averaged \$1222.

**CHARITIES AND CORRECTIONS.** Chief among the charitable and correctional institutions of the State in 1926 were the State prison, industrial school, hospital, and school for the deaf and blind.

**POLITICAL AND OTHER EVENTS.** At the election, November 2, Senator Reed Smoot, Republican, was reelected to the U. S. Senate, for the six-year term. He defeated his Democratic opponent, Ashby Snow, by a majority of approximately 34,000. The State's two members of the U. S. House of Representatives, both Republican, were reelected. Elias Hansen was elected an associate justice of the State supreme court to succeed Valentine Gideon.

The Utah Wool Marketing Association announced in April that it had completed plans for the cooperative marketing of wool for the ranchers. Native miners employed in the Judge coal mine at Park City became involved in racial troubles with Mexicans there employed, with the result of a fatal affray and a walkout of the native miners, March 21.

**OFFICERS.** Governor, George H. Dern; Secretary of State, H. E. Crockett; Treasurer, John Walker; Auditor, John F. Holden; Attorney-General, Harvey H. Cluff; Superintendent of Public Instruction, C. N. Jensen.

**JUDICIARY.** Supreme Court, Chief Justice, Samuel R. Thurman; Associate Justices, J. E. Frick, James W. Cherry, N. D. Straup, Valentine Gideon.

**UTAH, UNIVERSITY OF.** A State institution of higher education at Salt Lake City, founded in 1850. The resident enrollment for the fall term of 1926 was 2726, and for the summer session of the same year, 893. The faculty numbered 167, exclusive of 12 on leave of absence studying at other institutions. The productive funds of the university amounted to \$426,154, and the income for 1925-26 was \$748,035.56. The library contained 87,800 volumes and 23,931 pamphlets. President, George Thomas, Ph.D.

**VACCINATION.** See SMALL POX AND VACCINATION.

**VAHID-ED-DIN, EFFENDI.** Former Sultan of Turkey. See MOHAMMED VI.

**VALENTINO, RUDOLPH.** American motion picture actor, died in New York, August 23. He was born at Castellana, Italy, in May, 1895,

and was christened Rodolpho Alfonzo Rafaelo Pierre Filibert Guglielmo di Valentina d'Antonguolla. After graduation from the Royal Academy of Agriculture, he visited Paris and Monte Carlo. His travels and mode of living had left him penniless. He arrived in New York in November, 1913, and was employed as garden overseer on a Long Island estate, later becoming an apprentice gardener in Central Park, New York City, but he also served in menial capacities. He gave much time to the development of his dancing ability, at this time being known as Guglielmi. Succeeding as a professional dancer, he joined a traveling theatrical troupe, working out to California. After serving as a supernumerary in Hollywood, he became Valentino. His success as Julio in *The Four Horsemen of the Apocalypse* was followed by parts in *The Conquering Power* and Nazimova's *Camille*. He played with Gloria Swanson in *Beyond the Rocks*, and followed this with *The Young Rajah*, *Blood and Sand*, *Monsieur Beaucaire* and *The Sainted Devil*. All his previous triumphs, however, were eclipsed by *The Sheik*. Valentino later produced *The Eagle*, but this had not such drawing power as his *Sheik*. His last picture was called *The Son of the Sheik*. It was while visiting New York for the premiere of this picture that Valentino was taken suddenly ill and, after an operation, died.

**VALERA Y DELAVAT, LUIS, MARQUÉS DE VILLASINDA.** A Spanish diplomat and author, died July 1, in Rome. He was born in 1870, the son of a distinguished diplomat and statesman, Juan Valera y Alcalá Galiano, who was the most Attic stylist produced by Spain in the nineteenth century and one of its foremost novelists. He continued in a dignified manner two of the phases of the life of his illustrious father, diplomacy and belles lettres. His first diplomatic post was that of secretary of the Spanish Legation at Peking. He took advantage of his Oriental experience to obtain material for his creative writings, and based his first two works, *Sombras Chinescas* (in two volumes), and *Visto y Sonado*, on his residence in the Far East. Later he served as Minister to Morocco and to Portugal. During the World War, and just before the collapse of Russia, he was sent as Ambassador to Petrograd. His last post was that of Spanish Ambassador to the Vatican, a very delicate mission, despite Spain's fidelity to the Church. Among his writings the following may be mentioned: *Del Antaño Quimérico* (short stories), *Un Alma de Dios* (a novel), *El Filósofo y la Tiple* (a novel), and *De la muerte al amor* (a novel).

**VALLEY FORGE.** See CELEBRATIONS.

**VANADIUM.** In 1926 it was estimated that the world's output of vanadium ores and their consumption in the aggregate was equivalent to 1,500,000 pounds of vanadium. A roscoelite-bearing sandstone from East Rifle Creek, Colo., was furnishing an ore exceptionally free from impurities, from which both fused oxide and ferro-vanadium were being made. In Utah vanadium ore in Southeastern Utah was being mined and worked. That there was a market for such material in the United States was indicated by the fact that the country imported vanadium ores aggregating 7471 tons, with a value of \$914,114, of which the greater part came from Peru. In Northern Rhodesia, various vanadium ores were being produced, and new deposits were being worked in Mexico. Vanadium was being used

in steels other than tool steels by simple processes, so that a product was obtained equal or superior to elaborately made and treated steels which did not contain vanadium.

**VANDERBILT UNIVERSITY.** A non-sectarian, coeducational institution of the higher learning at Nashville, Tenn.; founded in 1873. In 1925 the total number of students was 1424. In the autumn of 1926, it was 1238, the decrease being partly due to the discontinuance of the dental school. The enrollment was distributed as follows: College of arts and sciences, 697 undergraduates and 64 graduate students; school of engineering, 114; school of law, 134; school of religion, 47; school of medicine, 182. The faculty, exclusive of administrative officers, librarians, assistants, etc., numbered 153. The productive funds of the university amounted to \$9,000,000, the annual income was about \$700,000, and the value of the University's property was estimated at approximately \$5,300,000. The library contained 84,000 volumes. Chancellor, James H. Kirkland, PhD., LL.D., D.C.L.

**VASSAR COLLEGE.** A non-sectarian institution for the higher education of women at Poughkeepsie, N. Y.; founded in 1861. The enrollment for the autumn of 1926 was 1147. In 1926-27 the teaching faculty had 150 members, an increase of 13 over 1925-26. The endowment, including fellowships and scholarships, amounted to \$6,582,873 and the income for the year to \$361,338. There were 143,000 volumes in the library. President, Henry Noble MacCracken, Ph.D., L.H.D., LL.D.

**VATICAN.** See ROMAN CATHOLIC CHURCH.

**VEGETABLES.** See HORTICULTURE.

**VENEZUELA**, ven'ê-zwê'lâ, *Sp. pron.* vâ'nâ-thwâ'lâ or *Amer. Sp. pron.* vâ'nâ-swâ'lâ. A republic on the northern coast of South America, bordering on the Caribbean Sea and lying between Colombia on the west, Brazil on the south and British Guiana on the east. Capital, Carâcas.

**AREA AND POPULATION.** Venezuela has an area of 393,874 square miles; population, according to the census of December, 1920, 2,411,952; estimated, Dec. 31, 1924, 2,563,334. The population of Carâcas in 1920 was 92,212, and of other large cities: Maracaibo, 46,706; Valencia, 29,466; Barquisimeto, 23,943; and San Cristobal, 21,385. Because of the tremendous activity in the oil fields around Maracaibo, the population of the city has grown by leaps, and was estimated at 100,000 in 1926. Immigrants in 1924 numbered 13,070, and emigrants, 11,170.

**EDUCATION.** Elementary education is free and compulsory after the age of 7 to the completion of the primary grade. According to the report made by the minister of public instruction to the national congress, the registration and the average attendance in the various types of schools during 1925 were as follows:

	Registration Attendance	
Federal schools of primary instruction	47,507	34,442
Primary schools, private, municipal, and state	32,058	No data
Federal institutions of		
Higher learning	340	281
Secondary education	524	456
Special instruction	2,164	1,042

**PRODUCTION.** The area of Venezuela falls naturally into three zones, the agricultural, the pastoral, and the forest. In the first are grown coffee, cacao, sugar-cane, cotton, beans, etc. Naturally,

the second is devoted entirely to livestock. In the third, tropical products are found, such as caoutchouc, balata (a gum resembling rubber), vanilla, tonka beans, copaiba, etc. The area under coffee has been estimated at 180,000 to 200,000 acres, and the annual output of sugar at 60,000 tons. The country is rich in minerals, gold, silver, copper, coal, and salt being mined on a large commercial scale. Venezuela is one of the richest oil countries in the world, and promises to become one of the largest producers. The total production for the first eight months of 1926 reached 22,333,726 barrels, compared with 19,770,091 for the whole of 1925. The total Venezuelan production prior to 1925 amounted to 17,789,403 barrels. Production in the Concepción and La Paz fields began in 1925, and the output of all others greatly increased, with the exception of Mene Grande.

**COMMERCE.** According to the United States Bureau of Foreign and Domestic Commerce, 1925 was an exceptionally good year, the foreign trade exceeding by 33 per cent the figures for the prosperous year 1924. The total trade for 1925 was \$121,918,460, a gain of \$39,301,323 over 1924.

Imports for 1925 totaled \$58,426,648, a gain of \$16,882,743 over the previous year. Nearly 10 per cent of this business was done by parcel post. The United States continued to lead in the supply of goods to Venezuela; the total value of its sales in 1925, amounting to \$31,419,610, represented a gain of \$8,326,123 over the previous year. The United Kingdom was next, furnishing goods to the value of \$11,046,665, as compared with \$7,788,194 in 1924. Germany increased the value of its sales, from \$2,897,568 in 1924 to \$4,831,884 in 1925, as did France from \$2,179,856 in 1924 to \$2,943,641 in 1925.

The total exports of the country for the year 1925 amounted to \$63,491,809, a gain over 1924 of \$22,417,020. The United States, as usual, was a good customer of Venezuela, taking exports to the value of \$10,414,197, as compared with \$6,332,564 for 1924, a gain of nearly 65 per cent. Of the Venezuelan exports, crude petroleum to the value of \$5,633,340 was shipped by an American company to its terminal on the Dutch Island of Aruba, just off the north coast of Venezuela. This petroleum was later trans-shipped to the United States.

It was believed that the foreign trade of Venezuela for the year 1926 would materially exceed that of 1925.

**FINANCE.** The following table gives the main items of revenue and expenditure for the budget of 1925-26:

	Revenues	Bolivars
Customs	.....	27,400,000
Land taxes	.....	4,000,000
Cigarette revenue	.....	9,000,000
Stamp duty	.....	6,600,000
Salt revenue	.....	6,500,000
Mines	.....	4,000,000
Total (all items)	.....	69,147,500
	Expenditure	Bolivars
Department of Interior	.....	12,592,234
Department of Foreign Affairs	.....	3,004,472
Department of Finance	.....	16,718,717
Ministry of War and Marine	.....	13,008,640
Department of Internal Development	.....	6,760,883
Ministry of Public Works	.....	8,296,680
Ministry of Education	.....	5,242,493
Unforeseen expenditure	.....	656,281
Total	.....	66,280,350

'According to the President's annual message, the national debt, as of Jan. 1, 1926, was 92,-426,936 bolívares, of which 38,287,879 bolívares represented internal debt and 54,139,057 bolívares foreign debt. On Mar. 31, 1926, reserve funds in the national treasury amounted to 82,506,531 bolívares, after all obligations had been met.

**COMMUNICATIONS.** The latest available statistics for shipping are those for 1923, when 1258 vessels, of 1,534,261 tons, entered, and 2570, of 1,603,360 tons, cleared. In August, 1926, the Pan American Union reported that there were 1193 kilometers (approximately 740 miles) of railway in Venezuela, including the roads used in mining operations and on sugar plantations, as well as electric-car companies. The average cost per kilometer of all the railroads of Venezuela has been estimated at 226,165 bolívares, but it actually varied from 73,500 bolívares, the cost of the Carenero Railroad which runs through tableland, to 640,000 bolívares, the cost of each of the 32 kilometers of the Great Venezuelan Railroad constructed through the mountains.

**GOVERNMENT AND HISTORY.** According to the constitution of June 24, 1925, the executive power is vested in the president, who acts through a responsible ministry, and who is elected by congress for 7 years; and the legislative power is vested in the congress, consisting of a senate and a chamber of deputies, the former of 40 members (two from each state) elected for three years, and the latter of one deputy for every 35,000 inhabitants and one more for an excess of 15,000, also elected for three years. President of the republic during 1926, Gen. Juan Vicente Gómez (elected May 3, 1922, for the period 1922-29).

On April 26, Dr. Carlos F. Grisanti was received by President Coolidge as the envoy extraordinary and minister plenipotentiary of Venezuela in the United States. Dr. Grisanti is one of the leading members of the Venezuelan bar, and had served as diplomatic agent to France and The Netherlands. He succeeded Dr. Pedro M. Arsaya.

As November, 1926, marked the hundredth anniversary of the birth of Aristides Rojas, a distinguished Venezuelan historian, who devoted his life to patriotic service and letters, the government ordered all his scattered works, many of which are scarcely known, compiled and edited at public expense, under the direction of Sr. José E. Machado.

**VERMONT. POPULATION.** According to the Fourteenth Census the population of the State on Jan. 1, 1920, was 352,428. No essential change was made in these figures by later estimates. The capital is Montpelier.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	926,000	1,461,000 *	\$21,184,000
	1925	924,000	1,449,000 *	19,127,000
Corn	1926	84,000	3,948,000	3,751,000
	1925	85,000	4,080,000	4,080,000
Potatoes	1926	20,000	8,100,000	4,840,000
	1925	19,000	2,875,000	5,106,000
Oats	1926	82,000	8,116,000	1,870,000
	1925	84,000	8,860,000	1,982,000

\* tons.

**MINERAL PRODUCTION.** Stone and slate furnish the chief part of the total value of the yearly

production of minerals. Of stone there were produced 295,880 short tons in 1924, a decline in quantity from the production of 1923, 342,520 short tons; but the value of the product in 1924, \$9,066,073, exceeded that in 1923, \$8,661,906. Slate to the value of \$3,940,154 was sold by the State's producers in 1925, and in 1924, \$4,010,346. The State ranked second as a slate producer. Of lime were produced 69,000 short tons in 1925 and 56,484 in 1924; in value, \$741,000 (estimated) in 1925 and in 1924, \$710,739. Tale production was 61,653 short tons in 1924 and 67,100 in 1923; in value, \$573,747 in 1924 and in 1923, \$533,510. The total value of the State's mineral product in 1924 was \$14,549,429; in 1923, \$13,910,449.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$4,936,224. Their per capita rate was \$14.01, as against \$12.57 in 1924 and \$9.36 in 1918. Their total included \$408,318 for education, apportioned among the minor State divisions. Payments amounting to \$92,930 for interest on debt and \$1,792,821 for permanent improvements, added to payments for the maintenance and operation of State departments, made the year's total of State payments \$6,821,435. For highways was expended the sum of \$3,218,097, of which \$1,764,477 was for maintenance and \$1,451,620 for construction.

Revenue receipts of the State were \$6,788,261, or \$19.26 per capita. They exceeded by \$1,759,647 the total payments except those for permanent improvements, and were \$33,174 less than the total with these included. Property and special taxes formed 43.9 per cent of the revenue in 1925, as against 49.4 per cent in 1924 and 67.7 per cent in 1918. Their per capita rate was \$8.46 in 1925, \$8.69 in 1924 and \$7.25 in 1918. Earnings of the departments and compensation for officials' services furnished 8.5 per cent of the 1925 revenue; business and non-business licenses, 31.7 per cent. License receipts included those from taxes on incorporated companies, on gasoline sales and on motor vehicles and inheritance taxes. The net indebtedness of the State on June 30, 1925, was \$1,842,532, or \$5.23 per capita, as against \$5.49 per capita in 1924 and \$2.22 in 1918. The assessed valuation of property subject to State tax was \$317,346,427. The State tax levy, including direct State taxes for roads and schools, was \$1,533,577, or \$4.35 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 1057. No new construction and no abandonments of line were reported in 1926.

**EDUCATION.** The State commissioner of education, Clarence H. Dempsey, noted a substantial gain during the year in the number of normal-school students, and likewise in the number of those completing the two-year normal course. There was activity in the standardization of the rural schools. For the year ending June 30, 1926, the school population of the State was placed at 75,772 persons between the ages of 6 and 18 years. The total public-school enrollment in that year was 64,046, of which the common-school enrollment furnished 53,551 and that in high schools 10,495. Expenditure for public education in the State amounted for the year to \$4,742,381.

**CHARITIES AND CORRECTIONS.** The Department

of Public Welfare, instituted in 1923, William H. Dyer, commissioner, controlled in 1926 the following institutions, with the populations indicated: Vermont State hospital, at Waterbury, 858; industrial school, Vergennes, 240; school for feeble-minded, Brandon, 234; sanatorium, Pittsford, 60; State prison and house of correction for men, Windsor, 345; State prison and house of correction for women, Rutland, 27; Kinstead receiving home for children, Montpelier, 20.

**POLITICAL AND OTHER EVENTS.** At the general election, November 2, John E. Weeks, Republican, of Middlebury, was elected Governor for the two-year term beginning January, 1927, defeating the Democratic candidate, Herbert C. Comings, although for the first time in decades the Democratic candidate carried three of the counties, Chittenden, in which Burlington is situated, Franklin, and Grand Isle. Senator Porter H. Dale, Republican, was reelected to the U. S. Senate, defeating James E. Kennedy, Democrat, and the State's two members of the U. S. House of Representatives, both Republicans, were reelected. Other officers elected in November, to take office in 1927, were: Lieutenant-Governor, S. Hollister Jackson; Treasurer, Thomas H. Cave; Secretary of State, Aaron H. Grout; Auditor, Benjamin Gates; Attorney-General, J. Ward Carver.

The New England Conference, holding successive sessions in different States, met at Burlington, June 12, to discuss measures for the betterment of industry and agriculture in the New England region. The State forestry department made intensive efforts to prevent pine-tree infestation by blister rust. Eradication of over 257,000 gooseberry and currant bushes on 22,650 acres of land was effected. The work was performed at owners' expense, but overseen by trained State foremen. A traffic survey of the highways in the State made in the summer and autumn formed the basis of a recommendation of the State highway board, published in December, for the construction of 316 miles of hard-surface roads.

**OFFICERS.** Governor, Franklin S. Billings; Lieutenant-Governor, Walter K. Farnsworth; Secretary of State, Aaron H. Grout; Treasurer, Thomas H. Cave; Auditor, Benjamin Gates; Attorney-General, J. Ward Carver in place of Frank C. Archibald, resigned; Commissioner of Education, C. H. Dempsey.

**JUDICIARY.** Supreme Court: Chief Justice, John H. Watson; Associate Justices, George M. Powers, William H. Taylor (died in 1926), Leighton P. Slack, Fred M. Butler (resigned in 1926), and Frank L. Fish and Sherman R. Moulton (both promoted from the Superior Court bench in 1926).

**VERMONT, UNIVERSITY OF.** A State institution of higher education at Burlington, Vt.; founded in 1791. The 1926 fall enrollment was 1276, of whom 710 were men and 566 women. This number was distributed as follows: Arts and sciences, 787; medicine, 107; engineering, 161; agriculture, 107; graduate students, 5; two-year State teacher-training course, 109. There were 150 members on the faculty. The endowment amounted to approximately \$1,500,000, and the income for the year to \$817,000. The library contained 120,000 volumes. During the year the Ira Allen Chapel, the gift of James B. Wilbur, was erected at a cost of \$250,000. President, Guy W. Bailey, LL.D.

**VERRILL, ADDISON EMERY.** American zoologist and geologist, died December 10. He was born at Greenwood, Me., Feb. 9, 1839, and graduated from Harvard University in 1862. From 1860 to 1864, he was assistant in the Museum of Comparative Zoölogy at Yale University, and from 1864 to 1907 he was professor of zoölogy becoming emeritus professor in the last-named year. Also he was curator of the Zoölogical Museum, and from 1870 to 1894 he was instructor in zoölogy in the Sheffield Scientific School. For the ten years 1864-74 he was Curator of the Boston Society of Natural History, and from 1868 to 1870 he was professor of comparative anatomy and entomology in the University of Wisconsin. For the period 1869 to 1920 he was associate editor of the *American Journal of Science*. He was a member of the National Academy of Science. Dr. Verrill was assistant in charge of scientific exploration for the United States Fish Commission for the period 1871 to 1887, and made valuable original investigations in relation to the invertebrata of the entire Atlantic and Pacific coasts of North America, with especial reference to deep sea fauna. He was the author of more than 350 papers on zoölogical and geological subjects.

**VESSELS, NAVAL, AND NAVAL AVIATION.** No designs of new vessels in any of the established classes of warships embodied notable variations from existing models. Exact information, however, concerning some of the new cruisers and submarines building abroad is often withheld until the vessels are very far advanced in construction. The French suggestion of a cruiser-destroyer of about 17,500 tons was still under discussion, but the approval of the design was not strong enough to render the construction of such a vessel probable in the near future. Some information in regard to new vessels of the various types is given in the following notes:

**AIRCRAFT CARRIERS.** The large aircraft carriers which were building for the United States and Japanese navies were approaching completion and were to be in service before the end of 1927. The Japanese *Akagi* and *Kaga* have about the same displacement, 26,900 tons; but the speed of the *Akagi* (reported as 28 knots) was expected to exceed that of the *Kaga*. The United States carriers, *Saratoga* and *Lexington*, of 33,000 tons, were to have a speed of 33 knots or more. The French carrier *Béarn* (ex-battleship), of 21,450 tons and 21.5 knots speed and the British carriers *Courageous* and *Glorious* (ex-cruisers) were also to be completed in 1927. Japan had begun the transformation of a 15,000-ton tanker into a carrier—a rather remarkable procedure, unless she was very fast for her class.

**BATTLESHIPS.** The only battleships building were the *Nelson* and *Rodney* for the British navy. The principal details were: Length over all, 702 feet; beam, 106 feet; normal draft, 30 feet; standard displacement, 35,000 tons; armament, nine 16-inch guns in three turrets on the centre line, all forward of the foremast and bridge houses, the middle turret high enough to permit firing over the others, twelve 6-inch guns in 6 turrets; numerous anti-aircraft guns; armor (probable), turrets, 13 inches, belt, 12 inches, heavy deck protection against aerial bombs and plunging fire. The grouping of the guns on the forward deck permitted heavy deck armor around them and thick armor on the sides abreast the

loading trunk. The full load displacement of these ships was to exceed 40,000 tons.

**CRUISERS.** France, Great Britain, Italy, Japan, Spain, and Australia were building 10,000-ton light cruisers, the largest that could be built under the terms of the Washington treaty. Some of the lesser powers had such vessels under consideration. The two French cruisers which were most nearly completed were the *Duquesne* and the *Tourville*. They were of 10,000 standard tons, but the displacement, with all fuel and reserve water tanks full, was to be over 11,500 tons. The length over all was 626 feet; beam, 63 feet; draught, 20 feet. Four sets of turbines and 8 small-tube boilers were expected to develop 120,000 b.h.p., and give a speed of 34 knots. The fuel-oil supply was 1200 tons, designed to give a radius of action of 1200 miles at 30 knots and 5500 miles at 15 knots. The armament was to consist of eight 8-inch guns in pairs in turrets on the midship line, 2 forward, 2 aft—the second and fourth turrets firing over the first and third, respectively; eight 3-inch and eight 1-pounder automatic guns, forming the anti-aircraft battery; and twelve 3-tube deck mountings for 21.7-inch torpedoes. Two airplanes were to be carried, and launched by a catapult.

The Italian cruisers *Trento* and *Trieste*, of 10,000 tons, had a length of 640.7 feet on the water line; the beam was 67.5 feet; the mean draught, 18.9 feet. The armament consisted of eight 50-cal. 8-inch guns mounted like those of the *Duquesne*; twelve 4-inch anti-aircraft guns; and 8 torpedo tubes in twin deck-mounts. The mounts of the anti-aircraft guns permitted their use for horizontal fire also. The designed speed was 35 knots. Two airplanes were to be carried, and launched by a catapult. Four cruisers of the *Myoko* class of 10,000 tons were building in Japan. Satisfactory descriptions of these vessels were not available. The Japanese press stated that they were to have a speed of 35.5 knots, carry twelve 8-inch guns, have armor deck protection against aerial bombs and a 5-inch armor belt, and be able to steam 1400 miles at moderate speed. These characteristics as a whole are very improbable; some may have been correct.

**DESTROYERS.** The size of these vessels is constantly increasing. The new French boats bearing this title were of about 2700 tons and were really small cruisers or large flotilla leaders.

**SUBMARINES.** In the new French budget, another 3000-ton submarine cruiser was authorized. The Japanese were credited by rumor with having under construction one boat or more, equally large. Of this there was considerable doubt.

**NAVAL AVIATION.** The United States Navy still led the navies of the world in naval aviation. (See NAVAL PROGRESS: *Navies of the World in 1926*—United States.) Great Britain is a bad second; Japan, third; Italy, fourth; France, fifth. Following the publication of the Morrow Board report, Congress authorized a very extensive plan of development which included, in addition to airplanes, the construction of two airships of 6,500,000 cubic feet capacity. The commencement of neither of these ships was provided for in the budget submitted to Congress in December, 1926. (For a detailed account of the condition of the aviation in each navy, see the note in regard to that navy under the head of NAVAL PROGRESS.) The condition of aviation in the British navy is given in the YEAB BOOK for 1925, p. 473. There had been very little change

since. British fighting ships of all classes carry no catapults and few planes. Without catapults, planes have to be lowered into the water before they can "take off." This is slow work, and impossible in a rough sea. See NAVAL PROGRESS.

**VETERANS' BUREAU.** See UNITED STATES.

**VETERINARY MEDICINE.** The year 1926 was made notable by the removal of all quarantine restrictions placed as a result of the outbreak of foot-and-mouth disease, and by the progress in eradication work with bovine tuberculosis and the cattle tick. It was marked by the loss from hog cholera, for seldom has the American farmer suffered heavier losses from this disease than in the fall of 1926.

**BOVINE TUBERCULOSIS ERADICATION.** The active, nation-wide campaign to eradicate tuberculosis from livestock continued with gratifying results. There was a large increase in the county-wide testing of cattle, and up to July 1, 1926, 109 counties, or a total of 198, had completed tuberculin testing of their cattle and were listed as modified accredited areas. This large area virtually freed of tuberculosis in cattle, as pointed out by the chief of the Federal Bureau of Animal Industry, is convincing evidence that eradicating the disease from the entire country is possible. A survey of the extent of tuberculosis May 1 revealed that the average infection among cattle was about 2.8 per cent, as compared with approximately 4 per cent in 1922. The work was carried on under the appropriation of \$3,560,000, of which \$982,000 was allotted for operating expenses and \$2,578,000 for indemnifying owners of condemned cattle, or an increase of about \$150,000 for indemnity purposes over the preceding year. The State appropriations were approximately \$10,000,000. There was an average of 211 regular veterinarians employed by the Federal Government and 267 by State livestock sanitary officials and municipalities, with a total of 768 veterinarians so engaged throughout the year.

At the conclusion of the fiscal year ended June 30 there were listed as fully accredited 96,392 herds, containing 1,577,087 cattle, an increase of 24,009 herds, containing 302,024 cattle. In addition, 1,304,432 herds, containing 10,658,259 cattle, passed one test in the process of becoming accredited. This was an increase of 382,674 herds and 2,610,719 cattle. The total herds and cattle under supervision at the end of the fiscal year numbered, respectively, 1,556,366 and 15,131,345; and on the waiting list there were 434,636 herds, containing more than 3,994,192 cattle. In connection with this and the area eradication work, the tuberculin test was applied to 774,728 herds, containing 8,650,780 cattle, of which 323,084 cattle, or 3.7 per cent, were condemned as diseased. During the fiscal year 1926, accredited veterinarians under this plan tested 43,921 herds, containing more than 788,995 cattle, an increase of 34 per cent over the preceding year. In connection with the testing, a survey was made in which it was found that 1249 cities in 47 States (1 State missing) have municipal ordinances requiring tuberculin testing of the cattle furnishing milk to their communities. Much progress was made in the eradication of tuberculosis from swine and fowls.

**FOOT-AND-MOUTH DISEASE.** The outbreaks of foot-and-mouth disease in California and Texas which occurred in 1924 and recurred in 1925, and were the cause of great anxiety, were successfully eradicated, and on June 10, 1926, the

quarantine restrictions were withdrawn. The final suppression of the disease, especially in the rough mountain ranges of California, where wild deer as well as cattle were infected, removed one of the most serious dangers that ever threatened the livestock industry. The appearance of the disease in Mexico in the summer caused a renewed vigilance, but no immediate danger. Outbreaks continued to occur in Great Britain, 109 involving 27 shires, and resulting in the slaughter of 5316 cattle, 11,007 sheep, 2237 pigs, and 7 goats, having been recorded up to November.

**CATTLE-TICK ERADICATION.** Good progress was made in eradication work with the cattle tick, the activities resulting in the release of 18 counties and parts of 9 counties in 5 States up to the close of the fiscal year on June 30. The removal of the quarantine from the last 7 counties in North Carolina on Dec. 10, 1925, marked the release of the entire State from the Federal quarantine. The work was continued under the direction of 9 field stations, which at the close of the fiscal year had a total field force of 270 veterinarians and other employees working in cooperation with 304 State inspectors and 390 county employees. Under the supervision of the cooperating forces, 16,683,285 inspections or dippings of cattle were conducted; more than 16,000 dipping vats were used in these official dippings.

**DOURINE ERADICATION.** In Montana, where no outbreaks of dourine had occurred since 1922, a small centre of infection was discovered; 17 animals reacted to the blood test and were destroyed. In Arizona, the only other State in which the disease was found, infection was confined entirely to Indian reservations, where for lack of funds little if any progress was made, the number of reactors being greater than in the preceding year.

**HOG CHOLERA.** Following a period of years when the outbreaks of hog cholera had reached a low ebb, the floods were released and the losses that took place in the fall of 1926 were colossal. Fertilizer factories in corn-belt communities became glutted with the raw material and were unable to handle the carcasses. The demand for anti-hog-cholera serum caused such a shortage that the U. S. Department of Agriculture removed the three weeks' testing requirement, and thus made some 35,000,000 cc. of protective serum available for immediate use, or sufficient to treat 700,000 hogs.

**SCABIES ERADICATION.** In continuation of the eradication work with sheep scabies, 23,391,576 inspections were made in the field, and 3,176,285 dippings of sheep were supervised. Upon inspection, 969,925 sheep were found to be infected, or approximately 18 per cent less than during the preceding year. Inspection reports indicated greater prevalence of the disease in Kansas, Nebraska, and Wyoming, but in a number of other States, especially Arizona, California, New Mexico, and Texas, infection was less extensive than during the preceding year. No infection was found in Idaho, Montana, or Nevada. In eradication work with cattle scabies, 3,269,851 inspections were made, and 1,545,292 dippings were supervised. Upon inspection, 308,787 cattle were found to be infected, an increase over the preceding year in the number of infected animals. In Washington, which had been free from the disease for a number of years, a small outbreak occurred, traceable to cattle introduced from an-

other State. Increased infection was reported in Colorado, Nebraska, and New Mexico, but in other infected States conditions showed marked improvement.

**CONTAGIOUS ABORTION AND UNDULANT FEVER.** A number of cases were reported by several authors who recorded *Bacterium abortum* of cattle as the cause of undulant fever in man.

**POULTRY DISEASES.** Particular attention was given to the study of bacillary white diarrhea of chicks and to fowl typhoid, due to closely related organisms, and considerable advance was made in the knowledge of them. Independent investigations in New Jersey and California indicated that the causative organism of fowl typhoid might occur in the ovary of the hen and be transmitted through the egg to the offspring, as occurs with bacillary white diarrhea.

**ANIMAL PARASITES AND PARASITICIDES.** In an extensive series of tests of anthelmintics, kamala, which is a drug long used in India for the removal of tapeworms from man and also from dogs and other animals, was found by Hall and Shillinger to be very effective in removing tapeworms from poultry when administered in doses of 1 gm. to each bird. Tetrachlorethylene, a drug developed for the treatment of hookworm infestation, was used rather extensively in the treatment of dogs and is now marketed commercially for that purpose. Preliminary tests of mercurochrome indicate that in repeated doses this drug is very effective in removing whipworms. In investigations by Donham, Simms, and Miller in Oregon, it was found that the so-called salmon poisoning of dogs is caused by a new fluke, which parasitizes salmon. Work with aqueous solution of hyperactive iodine in Michigan showed that it could be used with success in the control of helminth parasites of dogs and foxes. The European gizzard worm parasite of geese, which attacks young birds, was reported as occurring in the United States.

**POISONOUS PLANTS.** Studies in Nevada showed that the common choke cherry is poisonous to sheep and cattle, the leaves containing hydrocyanic acid. In Wyoming two species of delphinium were found to be responsible for cattle losses. The silvery lupine was found to be poisonous to sheep in Wyoming. Molded, spoiled, or damaged sweet clover hay and silage was found in North Dakota to cause a definite hemorrhagic disease of cattle. Nuttall's death camas was found to be the cause of considerable loss of cattle in parts of Oklahoma. The rayless goldenrod was found to produce typical symptoms of alkali disease or milk sickness in cattle, horses, and sheep in the Pecos Valley of Texas and New Mexico.

**VIRUS SERUM CONTROL.** Under the virus-serum-toxin act of 1913, 88 establishments in 60 cities and towns in 20 States operated under license and inspection by the Federal Department of Agriculture, a decrease of 13 from the preceding year.

**VETERINARY EDUCATION.** The number of accredited veterinary colleges remained at 13, the same as in the preceding year. The total student enrollment at veterinary colleges in the United States and 1 in Canada was 582, an increase of 8 over the preceding year, of which 165 entered in the first year. The number graduated was 132, or 11 less than in 1925.

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**VICTORIA.** A state of the Australian Commonwealth, situated in the southeastern part of the island continent. Area, 87,884 square miles; population, according to the census of 1921, 1,531,280; estimated March 31, 1926, 1,691,486. Capital, Melbourne, with an estimated population, including suburbs, on Dec. 31, 1924, of 885,700. The other large cities with their populations on that date were Ballarat, 40,600; Geelong, 37,740; Bendigo, 33,640. The movement of population in 1925 was: Births, 35,922; deaths, 15,837; marriages, 13,370; immigration (by sea), 88,467; emigration (by sea), 72,458.

Education is compulsory for children between the ages of 6 and 14. In 1923 there were 2467 government schools, with 6919 teachers, a total enrollment of 253,307 pupils, and an average daily attendance of 167,638. The area and yield of the principal crops in 1925 were: Wheat, 2,705,000 acres, 47,364,000 bushels; oats, 517,000 acres, 9,572,000 bushels; barley, 64,000 acres, 1,445,000 bushels; potatoes, 61,000 acres, 139,000 tons; hay, 1,120,000 acres, 1,493,000 tons; vines, 44,278 acres, 2,177,127 gallons of wine. The wool industry is of great importance. At the end of March, 1925, there were 12,649,898 sheep, and the value of the wool clip in the preceding year was £7,695,000, for 82,513,361 pounds. The mineral resources are abundant, especially coal and gold ores. The output of the former in 1924 was 518,315 tons, valued at £569,555; of the latter, 67,167 fine ounces, valued at £285,316. The value of the total quantity of gold obtained from 1851 to 1924 was estimated at £302,138,996.

In 1924-25 the total value of overseas imports was £40,709,400; exports, £54,304,873. State revenues in 1925-26 amounted to £23,820,402, a decrease of £171,006 as compared with 1924-25. The deficit of the Victorian State government was anticipated to approximate £300,000, of which £200,000 represents a loss on the railways due to a poor wheat harvest for 1925-26, and also to increased labor costs, arising, it is said, from the Federal arbitration court

awards. During 1925-26 143.65 miles of new railways were opened. The total route mileage was 4888, as compared with 4807 in 1924-25. Operations for the same year resulted in a large deficit, due mainly to increases in operating expenses. The annual report of the railway commissioners gives the deficit as £182,369, but this amount is independent of the sum of £309,353, which was paid out of consolidated revenue to the department for losses on non-paying lines, and for the loss incurred in connection with the reduction of 10 per cent in freight charges for certain classes of agricultural produce, which reduction became operative in October, 1924. The total deficit from railway operations was approximately £491,700. The gross revenue for the year was £12,743,566, a decrease of £86,716 compared with 1924-25. Although operating expenses increased from £9,485,844 to £9,592,160, the amount per average mile open decreased from £2119 to £2014. The interest charges and expenses during the year were £3,092,695. The executive power is vested in a governor, acting through a responsible ministry; and the legislative power, in a parliament of two houses; namely, the legislative council of 34 members elected for years and subject to property qualifications, and a legislative assembly of 65 members elected by universal male and female suffrage. The governor in 1926 was the Earl of Stradbroke; the prime minister and minister of water supply was J. Allan.

**VILLALOBAR,** MARQUIS OF. Spanish diplomat, died at Brussels, Belgium, July 9. He was born in 1866, and after completing his education entered the Spanish diplomatic service, in which he spent practically his whole life. In 1909 he was appointed Spanish Ambassador to Washington, and in 1913 was transferred to Belgium, where he served during the World War. As a neutral envoy he represented the interests of the allied nations. On the outbreak of the submarine activity, Villalobar protested to the German Governor General in Brussels against the manner in which it was being carried out, warning the central powers that they were antagonizing the American people, and that a continuance of such tactics would spell intervention and defeat.

**VIOLINISTS.** See MUSIC.

**VIRGINIA.** POPULATION. According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,309,187. The estimated population on July 1, 1926, was 2,519,000. The capital is Richmond.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Corn	1926	1,694,000	46,585,000	\$39,597,000
	1925	1,681,000	86,982,000	37,352,000
Tobacco	1926	188,000	182,852,000	25,412,000
	1925	200,000	129,400,000	20,186,000
Hay, tame	1926	979,000	992,000	19,344,000
	1925	1,020,000	779,000	18,359,000
Potatoes	1926	184,000	11,658,000	18,070,000
	1925	180,000	11,700,000	22,815,000
Sweet potatoes	1926	43,000	5,375,000	5,375,000
	1925	37,000	3,996,000	5,195,000
Wheat, winter	1926	687,000	11,836,000	14,850,000
	1925	680,000	8,946,000	14,403,000
Cotton	1926	101,000	55,000	52,535
	1925			
Peanuts	1926	188,000	181,100,000	5,244,000
	1925	188,000	148,520,000	5,741,000



Crop	Year	Average	Prod. bu.	Value
Oats	1926	186,000	4,886,000	3,047,000
	1925	192,000	4,128,000	2,890,000
Apples	1926		19,902,000	10,450,000
	1925		7,844,000	8,785,000

\* pounds. \* tons. \* bales.

**MINERAL PRODUCTS.** Coal, the most important of the State's minerals, furnishing the greater part of the total value of its annual mineral output, was actively mined in 1925. Production of coal was 12,779,443 net tons, as against 10,693,464 tons in 1924. The coal product in 1925 was valued at \$23,496,000; in 1924, \$21,823,000. Clay products totaled \$4,288,640 in 1924; in 1923, \$4,318,752. Of stone were produced 2,223,620 tons in 1924 and in 1923, 2,216,140; in value, \$2,566,575 in 1924 and in 1923, \$2,482,037. The State was not an important producer of iron ore in 1925 or in 1924, the quantity of this product having fallen off sharply. It produced 97,884 long tons of pig iron in 1925 and 94,462 long tons in 1924; having a value of \$2,237,749 for 1925 and for 1924, \$2,268,022. Production of coke was important, attaining 485,064 short tons in 1924 and 774,887 in 1923; in value, \$2,343,081 in 1924 and in 1923, \$5,086,612. Sand and gravel, lime, talc and soapstone, zinc, and lead were products of secondary importance. The total value of the State's mineral product, duplications excluded, was in 1924, \$37,962,143; in 1923, \$48,052,018.

**FINANCE.** As summarized by the U. S. Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$19,675,760. Their per capita rate was \$8.07, as against \$8.71 in 1924 and \$3.96 in 1917. Their total included \$5,530,056 for education, apportioned among the minor State divisions. Payments amounting to \$744,020 for interest on debt and \$12,540,871 for permanent improvements, added to payments for maintenance and operation of State departments, made the year's total of State payments \$32,960,651. For highways was expended the sum of \$14,104,072, of which \$2,492,685 was for maintenance and \$11,611,387 for construction.

Revenue receipts of the State were \$30,261,951, or \$12.42 per capita. They exceeded by \$9,842,171 the total payments except those for permanent improvements, and were \$2,698,700 less than the total with these included. Payments in excess of receipts were met from proceeds of debt obligations. Property and special taxes formed 34.8 per cent of the revenue in 1925, as against 35.5 per cent in 1924 and 41.2 per cent in 1917. Their per capita rate was \$4.32 in 1925, \$4.13 in 1924 and \$1.96 in 1917. Earnings of the departments and compensation for officials' services furnished 8.8 per cent of the 1925 revenue; business and non-business licenses, 40.7 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$26,211,181, or \$10.76 per capita, as against per capita rates of \$9.99 in 1924 and \$10.21 in 1917. The debt total included debt occasioned by advances made to counties for highway construction. The assessed valuation of property subject to State tax was \$2,029,821,959. The State tax levy was \$7,328,742, or \$3.01 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4554. No new construction of moment occurred in 1926. The Chesapeake and Ohio abandoned 4 miles of line near Mineral.

**EDUCATION.** Efforts to improve the standard of professional qualifications for teachers continued to make progress. The State board of education, according to Harris Hart, State superintendent of public instruction, was at last practically in the position to assert that no one might teach in the public schools unless qualified by one year of professional training subsequent to high-school graduation. The division of school buildings was credited with effecting important improvement in the field of school-house construction. Enrollment in the public schools of the State in the academic year 1925-26 totalled 551,476; that in the common schools was 492,654, and that in the high schools 58,822. Expenditure for public education in the State in the year amounted to \$23,788,215. Salaries of teachers in high schools averaged \$1144; in elementary schools, \$622.

**CHARITIES AND CORRECTIONS.** The State Board of Public Welfare has control or supervision over State and county charitable and penal institutions. It undertook in 1926 to replace certain of the old county almshouses of the State with what was to be called the Eighth district almshouse. It was reported that 18 counties had discontinued almshouses since 1909. The aim was to reduce the remaining almshouse population by allowances, hospitalization, and other forms of State aid, and to provide eventually for the residue of almshouse inmates in regional almshouses or in a State institution. The Virginia penitentiary had an industrial system, a farm and a series of road camps in which some 1400 convicts were employed in constructing modern-type roads. Prisoners in jails, the penitentiary and the juvenile reformatories on June 30, 1925, numbered 4776. Committed insane numbered 6478; feeble-minded and epileptics, 936.

**LEGISLATION.** The General Assembly voted against ratification of the Federal Child Labor amendment, January 14, by 54 to 1. The measure recommended by Governor Byrd, to put taxation of land values in the hands of the counties and taxation of intangibles in the hands of the State, was enacted. The legislature further enacted a higher rate, 4½ cents to the gallon, for the tax on sales of gasoline, and revised the scale of payments for automobile licenses to correspond with weight instead of horsepower. The fee system for the payment of tax assessors, sheriffs and certain other officers was limited to a fee maximum of \$7500 a year. Legislation reducing the number of administrative bureaus was passed. The session approved an amendment to the State constitution limiting the executive offices disposable by popular ballot to those of Governor, lieutenant-governor and attorney-general, allowing the Legislature to elect the auditor and requiring all other officers to be made by Governor's appointment. The amendment, before becoming effective, had to await passage by a second legislature in 1928, and popular ratification in that year. A measure was enacted reducing the tax rate on non-resident corporations to 50 cents (previously \$1.10), and the tax on capital, previously \$1.16, to 85 cents.

**POLITICAL AND OTHER EVENTS.** Governor Harry Flood Byrd was inaugurated February 1. He ordered 8 hours of work daily in the State government offices. Pledged to extensive government reforms, he advocated to the Legislature that the State renounce taxation of land values, this form of taxation to be reserved to the counties, and that all power to tax intangibles be vested in the State alone. He proposed an increase from 3 to 4½ cents a gallon on gasoline, and a grading of automobile license costs according to weight instead of horsepower. He also recommended that the State and counties be investigated by the Bureau of Municipal Research, with the object of finding recommendations for future reforms. He maintained harmonious relations with the legislature, which enacted a great number of his proposals. A hard-surfaced road from Winchester to Bristol, running the length of the State, was completed during the year, and the extension of the Washington-Richmond hard-surface highway from Richmond toward the North Carolina line was carried on, with the intention of completing it in the summer of 1927. A State power survey, to serve as guide in State power-development policy, was carried on, the State's water-power resources, totaling some 810,000 hp., being about 89 per cent undeveloped, and unmined coal being reckoned at approximately 21,000,000,000 tons. Private citizens pledged a total of \$1,000,000, in a campaign for the purchase of a strip of the Blue Ridge from Front Royal to Staunton, to form a Shenandoah National Park. The State's representatives, 10 in number, and all Democrats, were reelected to the 70th Congress in November.

**OFFICERS.** Governor, Harry F. Byrd; Lieutenant Governor, Junius E. West; Secretary of the Commonwealth, B. O. James; State Treasurer, John M. Purcell; Auditor of Public Accounts, C. Lee Moore; Attorney General, John R. Saunders; Superintendent of Public Instruction, Harris Hart; Commissioner of Agriculture, George W. Koiner.

**Judiciary.** Supreme Court of Appeals: President, Robert R. Prentiss; Associate Justices, J. F. West, Martin P. Burks, Preston W. Campbell, R. H. L. Chichester.

**VIRGINIA, UNIVERSITY OF.** A non-sectarian institution of higher education at Charlottesville, Va.; founded in 1819. The enrollment for the 1926 fall term was 2101, distributed as follows: College, 1264; education, 93; graduate students, 122; engineering, 127; law, 262; medicine, 233. For the 1926 summer session the registration totaled 2766. The faculty numbered 250, 110 of whom were above the rank of instructors, 10 professors having been added during the year. The endowment funds of the university amounted to \$3,673,000, and the annual income was \$1,251,000, as follows: From endowment, \$180,000; from State appropriations, \$373,000; from fees, \$387,000; from miscellaneous sources, \$311,000. There were approximately 140,000 volumes in the library. President, Edwin Anderson Alderman, D.C.L., LL.D.

**VIRGIN ISLANDS.** The name given by the United States government to the former Danish West Indies, purchased by the American government from Denmark by the treaty proclaimed Jan. 25, 1917; also a group of islands belonging to the British colony of the Leeward Islands (q.v.). The Virgin Islands of the United States

consist chiefly of the Islands of St. Thomas, St. Croix, and St. John, and have a total area of about 132 square miles, with a population, according to the census of Nov. 1, 1917, of 26,051, of whom 80 per cent were negroes, 13 per cent of mixed races, and 7 per cent whites. St. Thomas, with an area of 28 square miles, had 10,191 inhabitants; St. Croix, 84 square miles, 14,901 inhabitants; and St. John, 20 square miles, 959 inhabitants. St. Thomas, the chief port, has coaling and oil fueling stations. Education is compulsory. For the fiscal year 1924-25, trade with the United States was: Imports, \$1,616,468, exports, \$595,375. Governor in 1926, Capt. Martin E. Trench, U.S.N.

**VITALISM.** See ZOOLOGY.

**VITAMINS.** See CHEMISTRY; FOOD AND NUTRITION.

**VOCALISTS.** See MUSIC.

**VOGT, AUGUSTUS STEPHEN.** Canadian organist and choral conductor, died in Toronto, September 17. He was born at Washington, Ontario, Aug. 14, 1861. After one year of study at the New England Conservatory, in Boston, he went, in 1885, to the Leipzig Conservatory, where his teachers were Ruthardt, Reinecke and Jadassohn. He graduated in 1888, and returned to Canada as teacher of piano at the Toronto College of Music, 1888-92. In 1892 he accepted a similar position at the Toronto Conservatory of Music, of which he became director in 1913. From 1888 to 1906 he also held the position of organist and choirmaster at the Jarvis Street Baptist Church, and from 1918 until his death he was dean of the music department at Toronto University. In 1894 he founded the Mendelssohn Choir, of which he was conductor till 1917. Before long, this organization had won a high reputation, not only in Canada and the United States, but was recognized even in Europe as the equal of the famous Philharmonic Choir of Berlin. During a very successful tour of the United States, in 1912, Dr. Vogt set a new standard of perfection for choral ensemble, and upon his return was elected honorary member of the National Club of Toronto. In 1907 the University of Toronto conferred upon him the degree of Mus. Doc. He was the author of *Modern Pianoforte Technic*, and several a capella choruses.

**VOLCANOES.** See GEOLOGY.

**VOLHYNIA, vól-In'îa.** A part of the Soviet Republic of Ukraine (q.v.); formerly a part of the Russian Empire; lying east of Poland and Galicia in West Russia. Area, 27,699 square miles; population, Jan. 1, 1915, 4,241,800. Capital, Zhitomir, with an estimated population before the War of 96,800.

**VOLUNTEERS OF AMERICA.** A non-sectarian philanthropic organization founded by General and Mrs. Ballington Booth, in March, 1896. Operations were begun without funds, but with many friends, with central offices in the Bible House, New York City. The society was incorporated on Nov. 6, 1896, under the laws of the State of New York. The society works in harmony with the evangelical churches. No pledge of life membership is required of its members; it promotes its officers on a merit system; its funds are audited at stated periods, and balance sheets are issued. The society has 60 homes or institutions throughout the United States. Thirteen of these are for the care of children, 10 for widowed mothers with children, four for

women only, and there are two homes for elderly people, four working girls' homes, three "hope halls" for discharged prisoners, 18 industrial homes for men, six homes for emergency shelter or temporary relief, and a well-equipped hospital at Baltimore. The summer camps number 14, and the society owns the property and equipment of most of these. The winter activities of the society embrace all branches of relief work in a number of cities, in conjunction with the gospel mission work. The following record gives some idea of the work accomplished during 1926: The total number of public meetings was 27,988, at which there was reported an attendance of 3,221,009. The number who professed conversion, the turning to better ways of life, at these gatherings was 10,374. The various homes, missions, and institutions provided 500,178 lodgings, 265,376 of which were given free, the balance for nominal fees or in return for work. Homeless men and women were supplied with 1,384,888 meals, and of these 756,514 were given free. Employment was given to 33,502 persons, or work was found for them. Persons and families assisted in various other ways numbered 93,557. Among the needy, 129,357 garments and pairs of shoes were distributed. It is recorded that 83,815 pastoral visits were made by Volunteer officers and workers during the year. Headquarters are at 34 West 28th St., New York City. In 1926 General Ballington Booth was president; Col. James W. Merrill, secretary; and Col. Walter J. Crafts, treasurer.

**VORARLBERG**, für'arl-bërk. A province of the new republic of Austria since the overthrow of the Dual Monarchy; formerly a crownland of the Austro-Hungarian monarchy. Area, 1005 square miles; population, according to the census of 1923, 139,968. Capital, Bregenz.

**WADSWORTH**, JAMES WOLCOTT. American congressman and former controller of New York State, died at Washington, D. C., December 24. He was born Oct. 12, 1846, at Philadelphia, Pa., the son of Gen. James S. Wadsworth, of Genesee, N. Y. He received his education at the Hopkins Grammar School, New Haven, Conn., leaving, however, in the fall of 1864 to join the Union Army. He served as volunteer aid on the staff of General G. K. Warren, commanding the Fifth Army Corps, until January, 1865, when he was commissioned captain of volunteers. In April, 1865, he was breveted major of volunteers for gallant and meritorious service at Five Forks. Returning to the family home in Livingston County, N. Y., Major Wadsworth assumed the management of extensive farm interests. He served as county supervisor in 1875, 1876, and 1877, and in 1878-79 he was an assemblyman. In 1880-81 he was State controller, and then was elected to the Forty-seventh Congress, subsequently serving in the Forty-eighth, and from the Fifty-second to the Fifty-seventh. He retired in 1907. He was a member of the New York constitutional convention of 1915, and at one time president of the Board of Managers of the National Home for Disabled Soldiers. He was for many years President of the Genesee National Bank of Genesee, N. Y., and the Genesee River National Bank of Mount Morris, N. Y. He was the father of United States Senator James W. Wadsworth, Jr., of New York.

**WAINWRIGHT**, RICHARD. American naval officer, died March 6. He was born at Washington, D. C., Dec. 17, 1849, and was appointed

to the U. S. Naval Academy by the President, in 1864. He graduated in 1868, and was commissioned a lieutenant in 1873, commanding for a time the coast survey vessel *Arago*. He was successively flag-lieutenant to Admiral Patterson, and secretary to Admiral Jouett, and was promoted to the rank of lieutenant-commander in 1894. In February, 1898, he was executive officer of the battleship *Maine* when that vessel was destroyed in Havana harbor, and during the Spanish-American War he commanded the converted yacht *Gloucester*, taking a distinguished part in the naval battle of Santiago. In 1899 he was made commander, and captain in 1903. From 1902 to 1904 he commanded the cruiser *Neuark*, and from 1904 to 1907 he was a member of the General Board. From 1907 to 1908 he commanded the battleship *Louisiana*, and in the last-named year he was promoted to rear admiral. From 1908 to 1910 he was in command of the Second and Third Divisions of the Atlantic Fleet. In 1910 he became aid for operations, and remained such until his retirement in the following year.

**WALDO**, CLARENCE ABIATHAR. American mathematician, died Oct. 1. He was born at Hammond, N. Y., Jan. 21, 1852. He studied at Wesleyan University, graduating in 1875, and receiving the A.M. degree in 1878. He was instructor in mathematics and registrar of Wesleyan University, from 1877 to 1881, and then studied at the Universities of Leipzig and Munich, 1882-83. After his return from abroad he was professor of mathematics at Rose Polytechnic Institute, Terre Haute, Ind., from 1883 to 1891. For two periods, 1885-86 and 1888-89, he served as acting president. From 1891-95 he was professor of mathematics at De Pauw University, and from 1895 to 1908 at Purdue University. Dr. Waldo was called to Washington University, St. Louis, in 1908, to become Thayer Professor of Mathematics and Applied Mechanics, serving until 1917 when he was made professor emeritus. He was a Fellow of the American Association for the Advancement of Science (vice-president of Section D, 1902-03; secretary of council, 1903-04, and general secretary, 1904-05). He was the author of *A Manual of Descriptive Geometry* (1888), and was editor of the *Proceedings of the Indiana Academy of Science* for the years 1896-98, and of the *Proceedings of the Society for the Promotion of Engineering Education*.

**WALES**. A historical division of the United Kingdom, consisting of 12 counties on the west coast of Great Britain, between the Irish Sea on the north and the Bristol Channel on the South. Area, 7466 square miles; population, according to the census of 1921, 2,206,712. See GREAT BRITAIN.

**WALKLEY**, ARTHUR BINGHAM. British dramatic critic, died October 8. He was born at Bristol, Dec. 17, 1855, and was educated at Warminster School, and at Balliol College and Corpus Christi College, Oxford. In 1877 he entered the secretary's office in the General Post Office, London, and was secretary to the British delegation to the Washington postal congress in 1897, and secretary to the Imperial Penny Postage Conference in 1898. He was a British delegate to the Rome congress in 1906. From 1911 to 1919 he was assistant in the General Post Office. In addition to his official duties, he undertook dramatic criticism, soon becoming known as an

authority on the stage and drama. For a long period he was associated with the *London Times*, in the capacity of dramatic critic. Among Walkley's many and varied publications are included *Playhouse Impressions* (1892); *Frames of Mind* (1899); *Dramatic Criticism* (1903); *Drama and Life* (1907); *Pastiche and Prejudice* (1921); *More Prejudice* (1923); and his last work in book form, *Still More Prejudice* (1925).

**WALLER, LITTLETON WALLER TAZEWEEL.** Officer of the U. S. Marine Corps, died July 13, at Atlantic City, N. J. He was born in York County, Va., Sept. 26, 1856, and in June, 1880, received appointment as a second lieutenant in the Marine Corps. Before the beginning of the Spanish-American War he had attained the rank of captain. He was present at the destruction of Cervera's fleet at Santiago. Later he went to China with the international expedition, in the Boxer rebellion. He was brevetted lieutenant colonel "for distinguished conduct and public service" in the presence of the enemy near Tientsin. He was advanced two numbers in grade "for eminent and conspicuous conduct" in the battle at Tientsin. On his return to the United States, he was in charge of recruiting in New Jersey, Pennsylvania and Delaware. In 1904 he commanded a provisional regiment of marines at the Isthmus of Panama, and led the expeditionary forces in Cuba in the intervention of 1906. In 1911 he again commanded a brigade of marines in Cuba. He was at Mare Island Navy Yard, 1911-1914, and in 1914 he commanded the first brigade of marines for service in Mexico. In 1915-16 he commanded the marine expeditionary forces in Haiti, and in 1917 he was made commander of the advanced base force at Philadelphia. He retired from active service in June, 1920. He had been promoted to brigadier general in August, 1916, and to major general in August, 1918.

**WARD, THOMAS HUMPHREY.** British art critic and journalist, died May 6. He was born at Hull, Nov. 9, 1845, and was educated at Merchant Taylors' School, and at Brasenose College, Oxford. He became a fellow of Brasenose in 1869 and was a tutor of the college, 1870-1881. He then became a writer on the *Times* of London, soon being widely known, not only for the freshness of his style in his editorials, but for the acuteness of his art criticism. He married in 1872 Mary Augusta, daughter of Thomas Arnold, a well known English educator and historian; she was the novelist, Mrs. Humphry Ward (died 1920), who wrote *Robert Elsmere*.

Humphry Ward was the editor of *The English Poets* (1881 to 1918), and of *English Art in the Public Galleries of London* (1888). He was also editor of the work called *Men of the Reign* (1885), *The Reign of Queen Victoria* (1887), and *Men of the Time* (12th ed.). He wrote alone, *Humphry Sandwith, A Memoir*, and, jointly, *The Oxford Spectator* (1868); and *Romney* (1904).

**WASHINGTON. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,356,621. The estimated population on July 1, 1926, was 1,538,000. The capital is Olympia.

**AGRICULTURE.** The following table gives the acreage, production and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Wheat, winter	1926	847,000	19,481,000	\$22,403,000
	1925	872,000	9,821,000	12,571,000
Wheat, spring	1926	1,260,000	20,790,000	24,324,000
	1925	1,700,000	30,408,000	39,863,000
Hay, tame	1926	923,000	2,055,000	28,154,000
	1925	908,000	2,048,000	30,720,000
Potatoes	1926	67,000	10,720,000	10,184,000
	1925	58,000	8,680,000	14,822,000
Oats	1926	229,000	9,847,000	5,219,000
	1925	254,000	11,176,000	5,812,000
Corn	1926	49,000	1,715,000	1,629,000
	1925	58,000	2,080,000	1,928,000
Barley	1926	64,000	2,176,000	1,404,000
	1925	91,000	3,094,000	2,104,000

\* tons.

**MINERAL PRODUCTION.** Coal, in respect to value of the annual total attained, was the State's leading mineral product. The coal mine output declined somewhat in 1925, to 2,415,000 short tons, from 2,653,667 in 1924. The product of 1924 was valued at \$9,689,000, that of 1923 at \$10,894,000. Cement was produced to the quantity of 2,481,000 barrels in 1925, as against 1,842,113 in 1924. Cement shipments of 1925 had a value of \$5,498,000; those of 1924, \$4,236,554. Clay products in 1924 were valued at \$2,607,397, and in 1923 at \$2,296,242. While these three products furnished about three-fourths of the total value of the yearly mineral output, stone, sand and gravel were produced in important quantities. The State was also a considerable producer of the mineral group, gold, silver, copper, lead, and zinc. The total value of the product of these five metals in 1925 was \$1,092,464, and in 1924, \$948,490. Of gold were produced 11,138 fine ounces in 1925 and 14,977 in 1924; of silver, 166,425 fine ounces in 1925 and 213,742 in 1924; of copper, 1,159,057 pounds in 1925 and 928,458 in 1924; of lead, 5,627,241 in 1925 and in 1924 3,935,376; of zinc, 1,217,846 pounds in 1925 and 910,890 in 1924. The total value of the State's mineral product in 1924 was \$21,159,370; in 1923, \$22,169,191.

The value of the gold, silver, copper, lead, and zinc produced from ore mined in the State of Washington in 1926 was \$881,000, as estimated by the Bureau of Mines. The production of gold decreased to \$188,100, as a result of the closing of the Boundary Red Mountain mill in Whatcom County. The output of silver decreased to 159,000 ounces. The output of copper decreased slightly to 1,100,000 pounds. The output of lead decreased to 4,500,000 pounds, valued at \$373,500. The production of zinc recovered from concentrate was about 23 per cent less than in 1925.

**FINANCE.** As summarized by the United States Department of Commerce, the payments for the maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925, were \$18,650,130. Their per capita rate was \$12.66, as against \$13.13 in 1924 and \$5.28 in 1917. Their total included \$8,502,918 for education, apportioned among the minor State divisions. Payments amounting to \$641,555 for interest on debt and \$10,210,014 for permanent improvements, added to payments for maintenance and operation of State departments, made the year's total of State payments \$29,501,699. For highways was expended the sum of \$9,657,010, of which \$1,259,198 was for maintenance and \$8,397,812 for construction.

Revenue receipts of the State were \$31,253,550, or \$21.22 per capita. They exceeded by

\$11,901,871 the total payments, except those for permanent improvements, and, furthermore, exceeded by \$1,751,857 the total with these included. There resulted an increase in the State's cash balances. Property and special taxes formed 46 per cent of the revenue in 1925, as against 53.5 per cent in 1924 and 66.8 per cent in 1917. Their per capita rate was \$9.76 in 1925, \$11.88 in 1924 and \$6.10 in 1917. Earnings of the departments and compensation for officials' services furnished 6 per cent of the 1925 revenue; business and non-business licenses, 31.9 per cent. License receipts were increased by larger amounts obtained from the gasoline tax and from the licensing of automobiles. They included also the proceeds of taxation of incorporated companies.

The net indebtedness of the State, Sept. 30, 1925, was \$10,066,363, or \$6.84 per capita, as against \$7.31 per capita in 1924 and 52 cents in 1917. The assessed valuation of property subject to State tax was \$1,158,026,676. The State tax levy was \$11,926,515, or \$8.10 per capita.

In the fiscal year ending Sept. 30, 1926, operation and maintenance payments for the State departments were \$20,515,354; interest on debt, \$638,720; outlays for permanent improvements, \$11,495,605. The combined total of the payments was \$32,649,679. Revenue receipts aggregated \$31,013,970. The net State indebtedness stood September 30 at \$11,331,780. The assessed valuation of property subject to the State ad valorem tax in 1926 was \$1,207,621,667. The State tax levy was \$16,109,673.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 5559. There was constructed in 1926 new first track totaling some 7 miles.

**EDUCATION.** The year brought an increase of about 1000 in the number of high-school graduations, according to J. C. Preston, as quoted in the *Journal of the National Education Association*. Qualification requirements for teachers were advanced. School consolidations went on at an increasing rate, and produced larger units for the purposes of school taxation and administration. In higher education, normal activities were disturbed by clashes between Governor Hartley and certain of the educational authorities disposed to resist political control. The millage rate for the purpose of supporting the higher schools was increased by approximately one-third, over the Governor's veto. (See also *Political and Other Events*, below.) As reported by the State Superintendent of Education, Josephine C. Preston, the number of children of school census age, from 4 or 5 to 21 years, in the school year 1925-26, was 414,373. There were enrolled in kindergartens 2991, in elementary schools 255,823 and in high schools 70,474; a total enrollment of 329,288. There were employed 11,377 teachers, principals and city superintendents. The salaries paid averaged, for men, \$1801 and, for women, \$1403 per annum. Current expense of public-school education in the State amounted for the year to \$24,325,053; capital outlay for school educational purposes to \$4,652,165.

**CHARITIES AND CORRECTIONS.** Among the charitable and correctional institutions of the State are three State hospitals, the State custodial school, soldiers' home, veterans' home, schools for the deaf and the blind, the State peniten-

tiary, State reformatory, and schools for girls.

**POLITICAL AND OTHER EVENTS.** At the election November 2, Wesley L. Jones, Republican, was reelected to the United States Senate, defeating A. Scott Bullitt, the Democratic candidate. Seattle elected a woman mayor, Mrs. Bertha K. Landes, March 9. Kenneth Mackintosh was selected to be chief justice of the State supreme court for the ensuing term, and William D. Askren and Walter M. French were to be associate justices, succeeding Justices Pemberton and Holcomb.

Governor Hartley encountered opposition in efforts to render the State system of higher education consonant with his views. The Board of Regents of the State university, by a vote mainly of his appointees, removed Dr. Henry Suzzallo as president. This act aroused sentiment sufficiently to cause the filing of a petition for the Governor's removal by a popular recall vote; it was filed with the Secretary of State October 18. Committees of citizens sought to obtain the 97,576 signatures necessary to a recall vote, but did not report obtaining that number up to the end of the year. Supporters of the Governor condemned Dr. Suzzallo as having disregarded the public interest by opposing the Governor's plan to put the State's five institutions of higher learning under a single board of regents. See WASHINGTON, UNIVERSITY OF.

A report of the State highway engineer, issued in December, stated that 2735 miles of the State highway system, out of a total of 3300, all outside the limits of incorporated cities and towns, had been improved up to that time, at a cost of \$90,000,000 to the State, the counties and the Federal Government, for construction and maintenance. There had been done since Mar. 1, 1925, 498 miles of new work, including 98 miles of concrete paving. The chief work undertaken during the two-year period, 1925-1926, was the construction of 7 steel and concrete bridges. Among these were one at Tacoma, over the Puyallup River tide flats and three railroad lines, a bridge of three spans, the largest 250 feet, with 1796 feet of approaches, costing \$664,910; and one over the Columbia River, the Vantage Ferry bridge, nine steel spans aggregating 1640 feet, costing \$628,496.

**OFFICERS.** Governor, Ronald H. Hartley; Lieutenant-Governor, W. Lon Johnson; Secretary of State, J. Grant Hinkle; Treasurer, W. G. Potts; Auditor, C. W. Clausen; Attorney-General, John Dunbar; Superintendent of Public Instruction, Josephine Corliss Preston.

**JUDICIARY.** Supreme Court; Chief Justice, John F. Main; Associate Justices, Emmet N. Parker, Mark A. Fullerton, John R. Mitchell, O. R. Holcomb, Kenneth Mackintosh, Warren W. Tolman, J. B. Bridges, William H. Pember-ton.

**WASHINGTON, UNIVERSITY OF.** A State institution of higher education at Seattle, Wash.: founded in 1861. The courses offered are: Liberal arts, science, engineering, fine arts, business administration, education, fisheries, forestry, journalism, law, library, mining, pharmacy, and graduate work. The enrollment for the autumn of 1926-27 was 6851, of whom 3965 were men and 2886 were women. The number of students in the 1926 summer session was 2697. The faculty numbered 304, distributed as follows: Professors, 66; associate professors, 35; assistant professors, 54; instructors, assistants, lecturers,

etc., 149. The income from all sources for the scholastic year 1925-26 was \$2,236,953. The library contained 212,361 volumes, and the first unit of the new library building was completed. The Henry Memorial Art Gallery, which, together with the collection which it was planned to house, was the gift of Horace C. Henry, was under construction. In the autumn of 1926, at a meeting of the Board of Regents, President Suzzallo was relieved of his duties as president of the university, by a vote of 5 to 2. No formal charges were brought against the president, but previously the Governor of the State, who has power to remove Regents without establishing cause, did this in the case of three members. He had, before this, appointed two new Regents to fill vacancies occasioned by the expiration of terms, and the vote of the five to relieve President Suzzallo was believed to be in pursuance of the Governor's policy regarding the conduct of the university. A subsequent meeting of the Regents fixed Dec. 1, 1926, as the end of President Suzzallo's term, and elected as acting president Dean David Thomson. He had been at the University of Washington since 1902, when he was made professor of Latin, and had been dean of the college of liberal arts from 1916, acting as one of the administrative deans to assist the president, and becoming dean of the faculties in January, 1926.

**WASHINGTON, BICENTENNIAL.** See CELEBRATIONS.

**WASHINGTON AND JEFFERSON COLLEGE.** A non-sectarian institution of higher education at Washington, Pa.; founded in 1802. The enrollment for the autumn of 1926 totaled 501, of whom 14 were post-graduates. The summer session had a registration of 280. There were 37 members on the faculty, including one on leave of absence. The productive funds of the college amounted to \$1,441,128, and the income from all sources during the year was \$202,812. The library contained 38,194 volumes. President, S. S. Baker, M.S., LL.D.

**WASHINGTON AND LEE UNIVERSITY.** A non-sectarian institution of higher education at Lexington, Va.; founded in 1749. The enrollment for the autumn of 1926 was 907. The faculty numbered 54. The productive funds of the university amounted to \$1,317,970, and the income for the year to \$286,115. The library contained 60,000 volumes. President, Henry Louis Smith, Ph.D.

**WASHINGTON UNIVERSITY.** A non-sectarian, coeducational institution of higher education at St. Louis, Mo.; founded in 1853. The enrollment Oct. 4, 1926, was 5642, distributed as follows: Graduate students, 146; college of liberal arts, 1491; engineering, 387; architecture, 104; business and public administration, 139; law, 202; medicine, 342; dentistry, 153; fine arts, 275; extension division, 2229; nursing, 174. There were 837 students registered for the summer session of 1926. The faculty numbered 494, including 87 professors, 76 assistant professors, and 40 associate professors. Among the new appointees were Alexander S. Langsdorf, director of the department of industrial engineering and research; Dr. Charles S. Potts and Wiley B. Rutledge, Jr., professors of law; Dr. Russell G. Fobes, instructor in materia medica and prosthetic dentistry, and registrar of the school of dentistry. The value of the buildings and grounds of the institution was

estimated at \$7,923,716, the endowment was \$13,277,852, and the income for the year 1925-26 was \$1,859,770. The library contained 250,000 volumes and 100,000 pamphlets. Completed during the year 1925-26 were the Field House for athletics, costing \$283,116.66, and the W. K. Bixby Hall of Fine Arts, costing \$250,000. Under construction were the Rebstock Hall for Biology, to cost \$300,000, the St. Louis Maternity Hospital, affiliated with the school of medicine, to cost \$600,000, and additions to the nurses' home, also affiliated with the school of medicine, to cost \$450,000. Gifts received during the year amounted to \$1,290,127, of which the largest was the Charles Rebstock gift of \$1,000,000 for biology hall and general endowment. New courses were established in industrial engineering. Chancellor, Herbert S. Hadley, LL.D.

**WATER POWER.** During the fiscal year ended June 30, 1926, the U. S. Federal Power Commission reported that construction had been started on 20 new projects which would have, when completed, an installation of 1,220,000 horse power or 40 per cent of the total placed under construction during the preceding five years. These new projects included the Lock 18 development of the Alabama Power Company on the Coosa River in Alabama with 180,000 horse power; the combined power and navigation development at the Falls of the Ohio, Louisville, Ky., with 135,000 horse power; the Conowingo development of 473,000 horse power on the Susquehanna River in Maryland and Pennsylvania; and five projects in California aggregating 417,000 horse power. These projects brought the total of plants placed in operation or under construction under license of the Commission since July 1, 1920, to 3,900,000 horse power.

A major project which was considered during the year was the development of power on the St. Lawrence River in the United States and Canada. The Joint Board of Engineers of both countries appointed in 1924 to examine and report on the project presented its report during 1926, this report being favorable to the carrying out of the development. The report dealt with the general engineering features and their practicability, which was fairly well established, but it did not decide when and by whom the development should be made, as the question naturally was one involving political considerations.

The Federal Power Commission had 726 power applications filed up to July 1, 1926, and of these 523 were for major projects. Of the latter number, 250 had been cancelled or withdrawn leaving 273 in active status with a capacity in horse power of proposed installations of 24,750,000 horse power. For the major projects, 137 permits and licenses were outstanding on July 1 with an aggregate of 10,100,000 horse power, leaving 136 major applications with a total of 14,690,000 horse power then awaiting action by the Commission.

On Jan. 1, 1926, it was stated that the capacity of water wheels in plants of 100 horse power or more was in excess of 11,000,000 horse power, and of the total power produced by central stations in 1925, 36 per cent was produced by water power. In the first nine months of 1926 the percentage had increased to 38. In December, 1926, out of a total production of 6,794,453,000 kw.-hr. by public utility power plants in the

United States, 2,384,728,000 was from water-power and 4,409,725,000 from fuel.

In New York State applications were made to the Water Power Commission for a license to develop the international section of the river, but these were withdrawn before the end of the year at the instance of Governor Smith and it was an open question whether water power development in the State should be carried on by a private corporation or as a state-owned and controlled utility.

At Muscle Shoals eight units totalling 260,000 horse power were in operation during the year by the United States Government engineers and it was estimated that about 450,000,000 kw.-hr. were generated in 1926, an amount that by 1929 would be increased to 1,000,000,000 kw.-hr. This matter, as outlined under Muscle Shoals (q.v.) was being discussed in Congress.

The Conowingo development was started during the year and the plant under construction was being built for an initial installed capacity of 378,000 horse power and an ultimate capacity of 600,000 horse power. Contracts were let during the year for the turbo-generators, seven in number, each unit having a rating of 54,000 horse power. The turbines, which are of the vertical Francis type, are designed to operate under a head of 89 feet at 81 revolutions per minute, being the largest capacity machines so far built for heads of less than 100 feet, the runners having an outside diameter of 17 feet 9 inches and a total weight of 200,000 pounds, and the spiral casings an inlet diameter of 27 feet.

Another important installation of the year was three 17,500 horse power units at the Belows Falls plant of the New England Power Company, to operate under a 57-foot head at 85.7 revolutions per minute. These units also are of the vertical shaft Francis type with runners 11 feet in diameter and weighing 100,000 pounds.

At the Santeclah development of the Tallahassee Power Company there was being installed two 33,000 horse power units to operate under a head of 660 feet at 450 revolutions per minute. The Southern California Edison Company, in its Big Creek Number 2-A plant, was installing two 56,000 horse power double overhung impulse type wheels to operate under a head of 2300 feet at 250 revolutions per minute. These machines were notable as being larger by 16,000 horse power than any of this type previously constructed. Another notable project in California was the installation of two 30,000 horse power impulse double overhung units in the Bucks Creek development of the Feather River Power Company, to operate under a head of 2548 feet. The San Joaquin Light and Power Company, at its Balch development, was installing a high-head unit of 40,000 horse power, to operate under a head of nearly 2400 feet. It was stated in *Power* that in 1925 and 1926 there had been put into operation or contracts made for nearly 350,000 horse power of units ranging in size from 36,000 to 56,000 horse power and for heads of 1900 feet and above. The São Paulo Tramway, Light and Power Company in Brazil was installing two units rated at 40,000 horse power, to operate under 2450 feet effective head.

In Canada two more 50,000 horse power units were installed in the Isle Maligne plant of the

Duke-Price Power Company at Lake St. John on the Saguenay River in Quebec, bringing the capacity of this plant to 500,000 horse power, with space for two more machines. Work was started on the Chute A Caron development, located about 20 miles below Isle Maligne, with indications that it would be prosecuted vigorously during 1927. The plans called for the development of 1,000,000 horse power in one station. For the Great Falls plant of the Manitoba Power Company there was placed an order for two additional units, one of which, of the Moody propeller type, was rated at 28,000 horse power and was to operate under a 56-foot head, being the third of the units of this type to be placed in this plant. The fourth turbine was of the high-speed four-blade bell type, rated at 31,500 horse power, at 138 revolutions per minute. The Canadian International Paper Company was installing four 34,000 horse power units, to operate under a 93-foot head, at 100 revolutions per minute, in the Chelsea plant on the Gatineau River about eight miles above its junction with the Ottawa River. At the Furnace Rapids plant there were being installed four 24,000 horse power units operating under a head of 66 feet at 90 revolutions per minute. In each of these plants space was provided for a fifth unit when additional capacity was required.

**WATER POWER CONFERENCE.** A second World Power Conference was held at Basle, Switzerland, Aug. 31-Sept. 8, 1926, and was attended by some 700 representatives from 38 countries. It was primarily a European meeting, the largest delegations coming from Switzerland and Germany. The topics discussed concerned five leading subjects: Relation of water power to inland navigation; exchange of electrical energy between countries; the economic relation between electrical energy produced hydraulically and electrical energy produced thermally; electricity in agriculture; and railway electrification. The American committee presented papers on each of the above topics. During the year the proceedings of the first World Conference, held in London in 1924, were published in four volumes aggregating some 6000 pages. This conference, as reflected in the proceedings, covered the following divisions of the general power problem: National power resources; water power production; preparation of fuels; steam power production; internal combustion engines; power transmission and distribution; power in industry and domestic use; power in electro-chemistry and electro-metallurgy; power for transport; and the economic, financial, and legal aspects of power development.

**WATER SUPPLY.** See **AQUEDUCTS**; **WATERWORKS AND PURIFICATION.**

**WATER WHEELS.** See **TURBINES.**

**WATER-WORKS AND PURIFICATION.** After a long controversy over the choice among various proposed additional sources of water supply for the Boston Metropolitan District, the Massachusetts Legislature of 1926 created a special construction commission, with authority to divert water from the Ware River to the existing Wachusett impounding reservoir on the Nashua River, and with further authority to make studies for a new reservoir on the Swift River, and to study also the advisability of treating the existing supplies from the Sudbury and Cochituate sources by chlorination or filtra-



tion, or both. At the close of the year, borings were being made on the line of a proposed tunnel, about 13 feet in diameter and 12 miles long, and further borings at the sites of dams to form the new reservoir.

For New York City, the Board of Water Supply recommended an additional water supply of 434,000,000 gal. per day, to be taken from a series of reservoirs on streams east of the Hudson River and north of the existing Croton supply. The estimated cost of this project was \$348,000,000. In addition, the board renewed its earlier recommendation for an additional pressure tunnel to carry water from the reservoir at the end of the Catskill Aqueduct beneath Manhattan Borough, the East River, and to Brooklyn Borough, at an estimated cost of \$67,000,000.

The rapid growth of Detroit required the addition of 217 miles of distributing mains to the water-works system in 1926, and it is expected that at least an equal mileage will be required in 1927, together with some 20,000 new service connections to keep pace with the estimated annual growth of 100,000 in population. It is expected that an additional filtration plant, with a capacity of 200,000,000 gallons a day, a low-lift pumping station, and ten miles of brick or concrete water tunnels, 12 to 15 ft. in diameter, will also be built soon at Detroit.

San Francisco was continuing construction on its new Hetch Hetchy system water supply from the Tuolumne River. The Hetch Hetchy dam and a part of the aqueduct were completed, and a part of the long length of tunnel remained to be built. Opposite San Francisco, the East Bay Municipal Utility District, including Oakland and other cities, was making progress on its aqueduct, which was to bring water to the district from the Mokelumne River. Some 27 miles of 65-inch electrically-welded pipe line was completed, and it was expected that work would be finished during 1927 on the additional 26 miles. Work was also under way on some 19 miles of tunnels and other structures forming a part of the aqueduct. The contract for the dam which was to form an impounding reservoir on the Mokelumne River had been let. Los Angeles was continuing its activities for an immense additional supply of water, to be conveyed nearly 300 miles from the Colorado River. There was talk of the formation of a large water-supply district to include Los Angeles and the area southward to San Diego.

The Metropolitan Water Board of London, England, opened a double filtration and chlorination plant in July. It is on the River Thames, and had a capacity of 22,500,000 U. S. gallons a day, but ultimately will have nearly double that capacity. In 1926, there were 18 rapid or mechanical filters and six slow sand filters, the first operating at a rate of from 125 to 250 U. S. million gallons a day, and the second at some  $4\frac{1}{2}$  million U. S. gallons per day. This new plant was supplementary to the earlier slow-sand filter plants for London, the earliest of which was built in 1828, or nearly a century ago.

A revised edition of Stein, *Water Purification Plants* (New York) appeared during the year. See also **AQUEDUCTS**.

**WATTS, SIR PHILIP.** British naval architect, died in London, March 15. He was born May 30, 1846, and was educated at the College of Naval

Architecture. He was engaged as a constructor in the British Admiralty until 1885, when he became naval architect and director of the warship building department of Sir W. G. Armstrong and Whitworth & Co., Ltd. This post he filled from 1885 to 1901. In 1900-01 he equipped and sent out the Elswick Battery to the Boer War. From 1901 to 1912 he was director of naval construction at the Admiralty. From 1912 onward he was adviser on naval construction.

**WEATHER BUREAU.** See **METEOROLOGY**.

**WEBB, WILLIAM SEWARD.** American capitalist, died at Shelburne Falls, Vt., Oct. 29. He was born Jan. 31, 1851, at New York, and received his preliminary education at Churchill's Military School at Sing Sing, N. Y. He studied at Columbia for two years and afterward studied medicine in Vienna, Paris and Berlin. On his return to the United States he entered the College of Physicians and Surgeons in New York and was graduated in 1876. He practiced medicine for but a few years, taking up business, and established the Wall Street firm of W. S. Webb & Co. About 1881 he became president of the Wagner Palace Car Co., an office he held until the merger of that corporation with the Pullman Co. Dr. Webb was president of the Fulton Chain Railway Co., the Fulton Navigation Co., the Raquette Lake Transportation Co., and a director of the Pullman Co. and other corporations. He was the builder and former president of the Mohawk and Malone Railway, and was for a long time on the board of the Lake Shore and Michigan Southern Railway. He was well known as a breeder of horses, being an authority on hackneys.

**WEEKLEY, WILLIAM MARION.** American bishop of the United Brethren Church, died January 8. He was born Sept. 18, 1851, in Tyler County, Va., (later West Va.), and was educated at the common schools and at the Theological Institute. He entered the ministry of the United Brethren Church in 1870, and was a pastor for 12 years and a presiding elder for 11 years. He was appointed secretary of the General Church Election board, a position he occupied for ten years. In May, 1905, he was made bishop, and later bishop emeritus in view of his valuable services to his church. He was a trustee of the United Christian Endeavor Society. He was the author of *From Life to Life* (1899); *Getting and Giving* (1903); and *Twenty Years on Horseback* (1907).

**WEEKS, JOHN WINGATE.** American statesman and former Secretary of War, died at Lancaster, N. H., July 12, where he had been born Apr. 11, 1860. He lived on a farm with his parents until he was 17 years old. At the age of 18 he won an appointment to the U. S. Naval Academy at Annapolis and, four years later, became an ensign in the U. S. Navy. After two years' service he resigned, but continued his interest in the Navy and matters of defense, later serving as a volunteer in the Spanish-American War and accepting a Naval Reserve commission. In 1885 he went to Florida as surveyor and land commissioner for the Florida Southern R. R., but after three years returned to the North and became a partner in the firm of Hornblower & Weeks, bankers, of Boston. Notwithstanding his activity in a rapidly growing business, Mr. Weeks found time for public service. He contributed largely to the development of the Bay



State Naval Brigade, which at one time he commanded. In 1900 Mr. Weeks began to be a figure of importance in Republican political affairs. He was in 1902 elected mayor of Newton, Mass., and in 1905 was elected to Congress from the 12th Massachusetts District. As a member of the banking and currency committee of the House of Representatives he took an important part in shaping the Aldrich-Vreeland currency law. Mr. Weeks, in 1913, became United States Senator, succeeding Winthrop Murray Crane, and as a member of the Senate military committee he strenuously supported aggressive war measures during the World War. He served in the Senate until 1919, and between the time of his retirement from the Senate and his appointment as Secretary of War by President Harding, in 1921, devoted himself to the affairs of the Republican party, becoming a leader in the Presidential campaign of 1920. He was a member of the Republican National Committee from Massachusetts. In President Harding's cabinet Secretary Weeks had the arduous task of readjusting the military establishment after the World War, adjudicating contractors' claims, and disposing of billions of dollars' worth of war equipment. He could not refrain from expressing his opinion of Congressional action reducing the forces in the interests of economy, and some of his utterances brought bitter replies. In failing health, he was ordered by his physicians to relax his public efforts and rest. On the arrival of the body of the American unknown soldier he insisted on being allowed to participate in the exercises at the National Cemetery at Arlington. This effort and other exertions immediately thereafter brought about his breakdown.

**WEEVIL.** See ENTOMOLOGY, ECONOMIC.

**WEIR,** JOHN FERGUSON. American painter and sculptor, died April 8, at Providence, R. I. He was born at West Point, N. Y., Aug. 28, 1841, where his father was professor of drawing at the U. S. Military Academy. He received instruction from his father in drawing and painting, and before he was 20 years of age had opened a studio for himself in New York. In the Civil War, enlisting in the Seventh Regiment, New York National Guard, he served in the defense of Washington. In 1869 he was called to Yale University to be dean of the department of fine arts. During his administration the chair of architecture was established in the university, and it was at his solicitation that the famous Jarves collection of Italian primitives was purchased. Mr. Weir modeled the statues of Professor Stillman and President Woolsey for the Yale University campus, and did other notable work. He retired from Yale University in 1913. He was a member of the National Academy of Design, where his picture, "The Gun Foundry," was first exhibited. "The Forging of the Shaft" was bought in 1902 by the Metropolitan Museum of Art, New York, for its permanent collection. He was the author of *The Way, the Nature and Means of Revelation, Human Destiny, and of Revelation and the Life to Come*.

**WEISS,** ERIC. See HOUDINI, HARRY.

**WELDING OF STEEL BUILDINGS.** See BUILDING.

**WELFARE WORK.** NATIONAL CONFERENCE OF SOCIAL WORK. This body met May 28 in Cleveland and sat for a week. The layman can

get a vague idea of the organized character of social work in the United States to-day by considering the following partial list of constituent organizations or affiliated bodies that held group discussions: American Association of Social Workers; National Association of Travelers' Aid Societies; Mothers' Pension Bureau; Child Study Association; Child Welfare League; National Federation of Day Nurseries; National Tuberculosis Association; National Association of Visiting Teachers; American Association for Organizing Family Social Work; American Association for Community Association; The American Country Life Association.

One understands how difficult it is to cut one's way through this maze. The conference itself produced other disturbing thoughts. What, if anything, was the professional status of social work? What is the position of social work with regard to the modern scene, to industrialism, to the old political ideas of liberty and equality? Where is the old emotional basis of social work? What of leadership? Miss Gertrude Valle, the president, voiced some of these uncertainties. The others were apparent.

Important papers were read by Lawson Purdy of New York, Rabbi Abba Hillel Silver of Cleveland, Edward I. Devine, Julia Lathrop, Jane Addams, and others. There were twelve sectional meetings, as follows: Children, delinquents and correction, health, family, industrial and economic problems, mental hygiene, organization of social forces, public officials and administration, the immigrant, professional standards and education, educational publicity.

One may close by quoting Geddes Smith's impressions in *The Surrey*: "A successful conference? Yes. An enthusiastic conference? No. An inspiring one? Hardly. There was too little deep feeling; an underlying insecurity and a too intellectual effort to deal with it. . . . Until, on the other hand, it (the Conference) applies intensively some creative intelligence to its own procedures, it will fall short of its opportunity as a training school and forum for technical advance. The clutter of meetings, the uncoordinated programmes, the monotonous repetition of time-work methods of communication, the criss-cross sub-divisions, the feeble 'discussions,' all these aspects of the conference are no longer even news: they are taken for granted, and allowed to persist through sheer inertia." The new officers of the conference are John A. Lapp, president, and Howard Knight, secretary. The 1927 conference was to take place at Des Moines, Ia.

**JEWISH CONFERENCE.** The National Conference of Jewish Social Service met at Cleveland, May 23-26. The layman was more in evidence than heretofore, though it is one of the striking characteristics of Jewish social service that it is not nearly as professionalized as are other groups. The Jewish element in the papers and the discussions was pronounced. One need only quote the following from Dr. Maurice B. Hexter's presentation paper on the Jewish Federation movement: "Philanthropy for the Jew is as important an activity as is the synagogue itself in communal life. There has always existed a fundamental intimate relation between charity and religion." Dr. Hexter's paper indicated that the Jewish Federation movement had succeeded, and that the community chest could hold nothing out for the Jewish movement. This same

characteristic note was to be found in two sessions, that devoted to Jewish community centre secretaries and that devoted to Jewish education. There were good papers by Rabbi Max Kadushin ("The Place of the Jewish Centre in American Jewish Life"), by Henry Hurwitz, on the cultural force that the Menorah movement has become, and by S. Benderly, on the history of Jewish education in America. The papers devoted to welfare work, per se, were of high grade. Probably the most important was Dr. I. M. Rubinow's "The Future of Jewish Relief Work in the United States," which was a masterly presentation of the ideas underlying family service work. Dr. Rubinow dissipated with ease that group of fallacies that centred in the belief that family relief work must come to an end soon because of immigration restriction, economic circumstances, etc. Another important paper was Samuel Goldsmith's "National and International Jewish Work," which was a plea for the supervision and possibly control of non-local philanthropies. Other papers discussed the atypical child case, the delinquent boy, the district service plan in family welfare, etc. Considerable thought, by the health group, was given to the diagnostic clinic. There were in attendance some 500 persons. For 1926-27, William J. Shroder, of Cincinnati, was elected president. The 1927 conference was announced to take place in Des Moines, Ia. Other important developments in the Jewish field were: The assurance of a field service to be conducted by the Bureau of Jewish Social Research, the continued success of the *Jewish Social Service Quarterly*, and the opening of a community-wide survey of Jewish work in New York City. Something of the scope of the activity may be indicated by the fact that the survey is to cost \$200,000 and is to study every field of Jewish work.

**NON-LOCAL PHILANTHROPIES.** Another example of characteristic Jewish alertness in considering the administrative problems of welfare work was the proposed plan to form one national chest for all organizations making national and international appeals for funds. In a meeting held in November, in New York, and attended by Jewish leaders generally, it was decided that some measures were needed to control the financial operations of those organizations that made widespread appeals for funds. It was ascertained that there were some 40 Palestinian agencies and probably a score of American agencies, philanthropic and educational, that were raising in the neighborhood of \$2,500,000 annually among the Jews of the United States. In view of the fact that these were non-local philanthropic and educational enterprises, their financial and administrative affairs were beyond the control of local federations. It was the consensus of the original meeting that a study committee be appointed to report back on the feasibility of such a chest and the desirability of studying the whole problem. This committee, made up of Justice Irving Lehman, of New York, James H. Becker and Jacob M. Loeb, of Chicago, and William J. Shroder, of Cincinnati, was appointed. Consideration of the new chest plan was prompted in a measure by the success of the New York Jewish Federation, which raised \$4,700,000 in 1926 in a single campaign.

**INTERNATIONAL.** At Paris, on September 27, a meeting took place whose purpose was the

calling of an International Conference of Social Work. Dr. Alice Masaryk, of Czecho-Slovakia, presided, and social workers from 17 countries were in attendance. It was decided that the international conference be held in London in 1927 at the same time as the next International Congress of Public and Private Welfare. On the executive committee of the conference, the United States is represented by Barry C. Smith of the Commonwealth Fund and Miss Mary Van Kleeck of the Russell Sage Foundation.

**WELKER, PHILIP ALBERT.** American civil engineer and scientist, died at Washington, D. C., Dec. 24. He was born at Toledo, Ohio, June 1, 1857, and, graduating from Cornell University in civil engineering in 1878, was appointed to the U. S. Coast and Geodetic Survey in 1879. From 1898 to 1910, as commanding officer of the Coast and Geodetic Survey ship *Bache*, he carried out surveys along the coasts of the Atlantic Ocean and the Gulf of Mexico, as well as in the Caribbean Sea. He took part in astronomical expeditions which included observations of the transit of Venus in 1882, and of the annular eclipse of the sun in 1886. On the completion of his surveys in the Philippine Islands he returned to the United States to be in charge of the Survey office in Washington.

**WELLAND CANAL.** See CANALS.

**WELLESLEY COLLEGE.** A non-sectarian institution for the higher education of women at Wellesley, Mass.; founded in 1875. The enrollment for the fall term of 1926 was 1588, including 41 resident candidates for the degree of M.A., 29 for the certificate in hygiene and physical education, and 8 for the M.S. in hygiene and physical education. The actual teaching staff numbered 157, and the officers of instruction and government 231. The trust funds amounted to \$8,300,496, and the income for the year was \$902,989 (including dormitories' net). The new dormitory, Severance Hall, would be ready for occupancy in February, 1927, it was expected, and the new botany building, including lecture rooms and laboratories, in the spring. The library contained some 113,000 volumes. President, Ellen Fitz Pendleton, M.A., Litt.D., LL.D.

**WELLINGTON, CHARLES.** American chemist and educator, died at Amherst, Mass., November 15. He was born May 4, 1853, at Limerick, Maine, and was graduated from the Massachusetts College of Agriculture in 1873. In 1876-77 he was a student at the University of Virginia, and served as assistant chemist in the U. S. Department of Agriculture, 1877-82. He continued his studies at the University of Leipzig in 1882-83; and made special studies in Berlin and Paris in 1883, and at Göttingen in 1883-85. Returning to the United States, he became professor of chemistry at the Massachusetts Agricultural College in 1885, serving until 1923.

**WESLEYAN METHODIST CONNECTION OF AMERICA.** See METHODIST WESLEYAN CONNECTION OF AMERICA.

**WESLEYAN REFORM UNION.** See METHODISTS, WESLEYAN.

**WESLEYAN UNIVERSITY.** An institution for the higher education of men at Middletown, Conn.; founded in 1831. The 1926 fall enrollment was 607, the number of students having been restricted to approximately 500. The faculty numbered 63. The productive funds of the

university amounted to \$4,501,743, and the income for the year was \$506,055. The Hall Laboratory of Chemistry, started in 1925 and expected to cost more than one-third of a million dollars, was practically completed at the end of 1926, and the Olin Library, costing \$750,000, was under construction, to be completed in 1927. The library contained 153,000 volumes. President, James Lukens McConaughy, Ph.D.

**WESTERN AUSTRALIA.** A state of the Commonwealth of Australia, comprising that portion of the island continent which lies to the west of the Northern Territory and Southern Australia; the largest state in the Commonwealth, constituting almost one-third of the area of the continent. Area, estimated at 975,920 square miles; population, according to the census of 1921, 332,732; the full-blooded aborigines were estimated at 25,000 in 1922-23; estimated population of the state on March 31, 1926, 372,732. Capital, Perth, with an estimated population at the end of 1924, including suburbs, of 176,467. In 1925 the movement of population was: Births, 8185; deaths, 3315; marriages, 2746. In 1924, immigrants, 25,195; emigrants, 29,924. In the same year, the number of government schools was 789, with 51,726 students enrolled; the number of private schools was 117, with 11,336 students enrolled.

In 1925 the area under crops was 2,170,856 acres. The chief crops with their acreage and yield were: Wheat, 1,867,614 acres, 23,887,397 bushels; oats, 318,982 acres, 4,241,074 bushels; barley, 11,606 acres, 177,537 bushels; hay, 397,591 acres, 448,524 tons; potatoes, 5122 acres, 19,891 tons; vines, 5331 acres, 223,761 gallons of wine. In 1926 the estimated areas sown with wheat, oats, and barley were 2,397,105, 508,161, and 17,258, respectively. The sheep numbered 6,396,564, yielding 39,526,354 pounds of wool. The two leading minerals are coal and gold. In 1924, 485,035 fine ounces of gold were mined, valued at £2,060,298; 421,864 tons of coal mined were valued at £363,255. In 1924-25 imports were valued at £16,075,446 and exports at £14,664,548. The revenues for 1925-26 amounted to £8,808,166, against expenditures of £8,907,308. The deficit of the state, which has been accruing since 1912, amounted in 1926 to £6,200,000. To relieve the situation, the Federal government has offered to assist the state financially for a period of five years, proposing to take over that portion of the state north of the twenty-sixth parallel. If the state accepts the government's proposal and relinquishes its northern half, which is sparsely populated and causes the chief financial drag, the Federal ministry believes the outstanding difficulty remaining will then be the deficit. If this is provided for, the finances of the state will be placed on a sound basis. Operation of the Western Australian Railways for the year ended June 30, 1926, resulted in a deficit of £31,982, as compared with a surplus of £190,565 for 1924-25. The principal causes assigned for the difference between the deficit, and the surplus of the preceding year, are: Increase in rates of pay to staff and reduction in hours of work, £98,000; water haulage, £30,000; coal strike, £5000; increased interest bill, £48,000; reduction in freights and fares, £38,000; or a total of £217,000. Another factor which affected the year's finances was the reduced harvest. On June 30, 1926, the railway system comprised 3864 miles of main line (3 feet 6

inches) representing a capital expenditure of £21,026,792. Executive power is vested in a governor, who acts through a responsible ministry; and legislative power in a parliament of two houses, a council of 30 members elected for six years and an assembly of 50 members elected for three years. Governor in 1926, Lieut.-Col. Sir William Robert Campion; prime minister, colonial treasurer, and minister for forests, Philip Collier.

**WESTERN RESERVE UNIVERSITY.** A non-sectarian institution of higher education at Cleveland, Ohio; chartered in 1826. The enrollment for the autumn of 1926 was 3177, distributed as follows: Adelbert College, 886; college for women, 865; school of medicine, 222; law school, 269; pharmacy, 102, dentistry, 202; nursing, 264; library science, 63; graduate school, 259; school of applied social sciences, 160. The 1926 summer school, carried on in cooperation with the Cleveland School of Education, had a registration of 1693. In the autumn of 1926 the faculty numbered 408, 57 of whom were additions during the year. The endowment of the University was \$7,638,954, and the income for the year \$1,361,000. The library contained 190,600 volumes. In February, 1926, the University Foundation was formed, bringing together a number of the educational, philanthropic, and cultural agencies of Cleveland, each to be represented on a central board to act for the advantage of all. In September the School of Dentistry raised the requirements for admission to include at least two years of liberal arts. The graduate school was established as a separate college, with Elbert J. Benton, Ph.D., professor of history in Adelbert College, as dean. A. Caswell Ellis, Ph.D., formerly professor of the philosophy of education in the University of Texas, was chosen director of Cleveland College, which was made a college of the University, though still retaining its affiliation with the Case School of Applied Science. In November, 1926, the General Education Board granted to the University \$975,000, \$750,000 of which was to be used to build an Institute of Pathology to focus work of the School of Medicine and the University hospitals, the remainder to be granted to the School of Medicine for its general budget for three years. Adelbert College reverted from the honor system in examinations to a proctor system. President, Robert E. Vinson, D.D., LL.D.

**WEST POINT.** See UNITED STATES MILITARY ACADEMY.

**WEST VIRGINIA. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 1,463,701. The estimated population on July 1, 1926, was 1,669,000. The capital is Charleston.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	771,000	1,015,000 *	\$19,691,000
	1925	836,000	1,005,000 *	20,100,000
Corn	1926	499,000	16,467,000	15,479,000
	1925	520,000	18,980,000	18,980,000
Potatoes	1926	47,000	4,982,000	8,320,000
	1925	47,000	4,089,000	7,892,000
Wheat, winter	1926	147,000	2,852,000	3,175,000
	1925	134,000	1,809,000	2,858,000
Oats	1926	207,000	5,796,000	8,420,000
	1925	188,000	5,076,000	8,147,000
Tobacco	1926	10,000	8,500,000 *	1,615,000
	1925	9,000	6,975,000 *	1,269,000

\* tons. \* pounds.

**MINERAL PRODUCTION.** The State maintained its rank in 1925 as second of the United States in total annual production of coal, its chief product. The production rose to 124,036,000 short tons in 1925, from 101,662,897 in 1924. Coal mined in 1924 was valued at \$185,229,000; in 1923, \$285,481,000. Connected with the coal industry there is an important production of coke and of pig iron. Coke was produced to the quantity of 1,328,569 short tons in 1924 and of 1,762,775 in 1923; and to a value of \$6,048,638 in 1924, and in 1923, \$11,103,718. Pig iron production was, in quantity, 499,047 long tons in 1925 and 453,944 in 1924; in value, \$9,416,095 in 1925 and in 1924, \$9,884,019. Natural gas production in the State was the third highest among the States in 1924 in point of quantity, while in value it ranked first. Of natural gas there were produced 182,285,000 M cubic feet in 1924 and 203,867,000 M cubic feet in 1923; in value, \$68,000,000 in 1924 and in 1923, \$69,981,000. Gasoline was made from natural gas to a total of 64,500,000 gallons in 1925, and in 1924 of 61,549,000 gallons; in value \$6,500,000 (estimated) in 1925 and in 1924, \$7,154,000. Petroleum production attained 5,776,000 barrels in 1925 and 5,920,000 in 1924; in value, \$20,300,000 (estimated) in 1925 and \$20,840,000 in 1924. Clay products of the State had a value in 1924 of \$15,625,022 and of \$17,574,096 in 1923. Stone, sand and gravel, and lime are produced in considerable quantities. The total value of the State's mineral product, duplications excluded, in 1924 was \$307,314,205; in 1923, \$412,866,635. The State held fourth rank among the States in 1924 as a mineral producer.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State for the fiscal year ending June 30, 1925, were \$10,979,627. Their per capita rate was \$6.91, as against \$6.34 in 1924 and \$2.72 in 1918. Their total included \$1,915,399 for education, apportioned among the minor State divisions. Payments amounting to \$1,803,996 for interest on debt, and of \$11,783,628 for permanent improvements, added to payments for maintenance and operation of the State departments, made the year's total of State payments \$24,567,251. For highways was expended the sum of \$11,122,397, of which \$1,754,077 was for maintenance and \$9,368,320 for construction.

Revenue receipts of the State were \$16,271,294, or \$10.24 per capita. They exceeded by \$3,487,671 the total payments except those for permanent improvements, and were \$8,295,957 less than the total with these included. Payments not covered by revenue receipts were met from proceeds of debt obligations. Property and special taxes formed 31.9 per cent of the revenue in 1925, as against 30.3 per cent in 1924 and 43.4 per cent in 1918. Their per capita rate was \$3.27 in 1925, \$3.05 in 1924 and \$1.76 in 1918. Earnings of the departments and compensation for officials' services furnished 8 per cent of the 1925 revenue; business and non-business licenses, 51.4 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$38,407,571, or \$24.18 per capita, against \$23.03 in 1924 and no indebtedness in 1918. The assessed valuation of property subject to State tax was \$2,133,491,140. The State

tax levy was \$2,986,888, or \$1.88 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 4038. There were constructed in 1926 some 2 miles of new first track and 9 miles of second track.

**EDUCATION.** The commission on high-school curriculum headed by Professor Lakin F. Roberts completed its task. Studies of college curricula were made by J. Frank Marsh; on the financing of education in the State, by L. V. Cavins; and, by the same author, on teachers' qualifications and salaries. A commentator in the *Journal of the National Education Association* marked a growth of public opinion in favor of an approach to equalization of educational opportunities and to the implied alteration in the distribution of the burden of school support.

**CHARITIES AND CORRECTIONS.** The State Board of Control holds full direction of all State penal and charitable institutions and in addition controls the finances and business of State educational institutions. The institutions (except educational) under its authority, with their inmate population on Nov. 30, 1926, were as follows:

Weston State Hospital (insane, white) .....	1160
Weston State Hospital (insane, colored) .....	54
Spencer State Hospital (insane) .....	749
Huntington State Hospital (mental) .....	966
State Hospital for Colored Insane .....	211
State Tuberculosis Sanitarium .....	314
State Colored Tuberculosis Sanitarium .....	50
Welch Hospital No. 1 (surgical) .....	51
McKendree Hospital No. 2 (surgical) .....	47
Fairmont Hospital No. 3 (surgical) .....	61
West Virginia Industrial School for Boys .....	416
State Industrial School for Colored Boys .....	67
West Virginia Industrial Home for Girls .....	128
State Industrial Home for Colored Girls .....	23
West Virginia Children's Home .....	38
West Virginia Colored Orphans' Home .....	13
Home for Aged and Infirm Colored Men and Women .....	30
West Virginia Penitentiary .....	1790

The State Hospital for the Colored Insane was put in operation in the course of the year.

**POLITICAL AND OTHER EVENTS.** The industrial year passed with relatively few serious labor incidents. The United Mine Workers sought in the State courts an injunction to prevent four coal-mining companies from operating in alleged violation of a union agreement. The injunction was refused, June 9, and the United Mine Workers subsequently sought impeachment of Judge I. G. Lazzelle, on charges connected with his refusal to enjoin.

There were elected, November 2, as Representatives to the 70th Congress, 5 Republicans and 1 Democrat.

**OFFICERS.** Governor, Howard M. Gore; Secretary of State, George W. Sharp; Treasurer, W. S. Johnson; Acting Auditor, G. W. Sharp; Attorney-General, Howard B. Lee; State Superintendent of Free Schools, George M. Ford; Commissioner of Agriculture, John W. Smith.

**JUDICIARY.** Supreme Court: President, M. O. Litz; Associate Judges, W. N. Miller, Frank Lively, John H. Hatcher, Homer B. Woods.

**WEST VIRGINIA UNIVERSITY.** A co-educational institution of higher education at Morgantown, W. Va.; founded in 1867. The 1926 fall enrollment was 2600, of whom 1800 were men and 800 women. There were 686 registered in the summer school. The faculty numbered more than 300 including 73 professors, 20 associate professors, and 42 assistant professors. The

libraries contained 92,000 volumes. During the year a new chemistry building was completed at a cost of \$911,424, and a women's gymnasium was in process of construction, to cost \$272,000. President, Frank Butler Trotter, LL.D.

**WHEAT.** A review of the world's wheat situation by the International Institute of Agriculture, Rome, estimated the quantity of wheat available for export during the year beginning Aug. 1, 1926, at 880,000,000 bushels and the probable requirements of importing countries for the same period at over 100,000,000 bushels less, thus assuring adequate supplies and a fairly large carry-over at the end of the year. The total production in 1926 of 36 countries reporting, not including the Soviet republics, was estimated at 3,091,990,500 bushels as compared with 3,039,060,900 in 1925. The yields of leading countries were given as follows, in bushels: Canada, 405,814,000; India, 324,949,300; France, 248,602,800; Italy, 221,009,700; Spain, 157,338,800; Germany, 112,191,700; and Rumania, 110,881,900 bushels. The production of the Soviet republics in 1925 was reported as 577,071,900 bushels. The yield of Argentina for the crop year 1926-27 was provisionally estimated at 215,316,000 bushels, and the yield of Australia at 150,000,000 bushels.

The wheat production of the United States in 1926 was estimated by the Department of Agriculture at 832,305,000 bushels, the area at 56,526,000 acres and the average yield per acre at 14.7 bushels. In 1925 the yield was 676,429,000 bushels, the area 52,255,000 acres and the average yield 12.9 bushels per acre. The average farm value Dec. 1, 1926, was \$1.199 per bushel, as against \$1.415 per bushel Dec. 1, 1925. On this basis the total value of the crop in 1926 was \$997,589,000 and of the crop in 1925 \$957,907,000. Of the total wheat area in 1926, 36,913,000 acres were in winter wheat and 19,613,000 acres in spring wheat. The production of winter wheat was 626,929,000 bushels, at the rate of 17 bushels per acre, and of spring wheat 205,376,000 bushels, at the rate of 10.5 bushels per acre. The spring wheat production includes 44,826,000 bushels of durum wheat, which was 16,825,000 less than in 1925. The average yield per acre of durum wheat in 1926 was 9.2 bushels per acre.

The production of durum wheat in the four leading States was as follows, in bushels: North Dakota, 36,138,000; South Dakota, 4,896,000; Minnesota, 3,276,000; and Montana, 516,000. The yields of winter wheat in the leading States of the 39 States reporting in 1926 were as follows, in bushels: Kansas, 150,057,000; Oklahoma, 73,745,000; Ohio, 40,252,000; Illinois, 38,934,000; Nebraska, 37,165,000; and Indiana, 33,940,000. In acreage, Kansas ranked first with 10,139,000 acres, followed by Oklahoma with 4,214,000, Nebraska with 2,881,000, and Illinois with 2,163,000. All other States had less than 2,000,000 acres each. Of the 24 States reporting spring wheat production, the leading States and their yields were as follows, in bushels: North Dakota, 77,224,000; Montana, 38,393,000; Minnesota, 24,588,000; Washington, 20,790,000; and Idaho, 14,352,000. In acreage, North Dakota ranked first with 9,653,000 acres, followed by Montana with 3,147,000, Minnesota with 1,967,000, South Dakota with 1,842,000, and Washington with 1,260,000.

During the year ended June 30, 1926, the United States exported 63,000,000 bushels of wheat and, in addition, 45,000,000 bushels as flour. For the flour exported, 13,000,000 bushels were imported from Canada in bond and 2,000,000 bushels on which duty was paid, making the net exports approximately 93,000,000 bushels. The 63,000,000 bushels exported as grain consisted of about 10,000,000 bushels of hard red spring, 21,000,000 durum, 11,000,000 hard red winter, 3,000,000 soft red winter and 18,000,000 white wheat. A large part of the exports of all classes except durum was from the Pacific Coast States. The reduction in the European wheat crops of 1926 was largely offset by the increase in yield over the preceding year in the United States. The government procurement of grain in the Soviet republics for the use of the deficit producing areas, the cities and for export was continued, and the grain movement out of the country, largely wheat, was reported as greater than a year ago.

Studies made by the United States Department of Agriculture showed that the cost of producing an acre of wheat on all farms reporting varied from \$19.68 in 1922 to \$22.41 in 1925 and that the cost per bushel in 1925 was \$1.32, or from 8 cents to 10 cents per bushel more than during the previous three years. The bushel cost of production in 1925 in the different groups of States varied as follows: North Atlantic, \$1.32; South Atlantic, \$1.50; East North Central, \$1.29; West North Central, \$1.23; South Central, \$1.49; and Western, \$1.19. During the year ended June 30, 1926, 444,403 carloads of wheat were inspected on arrival at all inspection points by inspectors licensed under the United States grain standards act. A new quarantine against flag smut of wheat, effective Feb. 1, 1926, prohibited the importation of wheat and wheat products from the countries in which flag smut prevails unless milled or processed to destroy all flag smut spores.

Although the position of the United States was more favorable with regard to world market conditions than in 1925, the price of wheat during the fall of 1926 was lower, and lower premiums were paid for high-protein wheat. At Minneapolis, the premium for 13 per cent protein wheat was only 4 cents per bushel, while the year before it was 20 cents, and test weight and moisture content were considered more important than protein content. Consult "Relation of Kernel Texture to the Physical Characteristics, Milling and Baking Qualities and Chemical Composition of Wheat" *Department Bulletin* No. 1420-D, United States Department of Agriculture (Washington, 1926). "Wheat and Rye Statistics" *Statistical Bulletin* No. 12, United States Department of Agriculture (Washington, 1926).

**WHEAT DISEASES.** See BOTANY, under *Plant Diseases*.

**WHITEHEAD,** CHARLES NELSON. American railroad president, died at St. Louis, Mo., Dec. 10. He was born Jan. 23, 1878, at Princeton, Ill. At 14 he was a messenger in the freight office of the St. Louis Southwestern R. R., at Cairo, Ill. The family moved soon afterward to Texas, and in 1895 Mr. Whitehead began his long connection with the Missouri-Kansas-Texas Railroad. After holding many minor positions, he became vice president in 1914. At the receivership in 1915, he was appointed assist-

ant to the receiver, and during the period of Government control he was general manager and Federal manager of the Missouri-Kansas-Texas lines north of the Red River. He was, next, chief operating officer for the receiver, until the reorganization in 1922, when he was made executive vice president. In May, 1926, he succeeded Charles F. Schaff as president of the railroad.

**WHITE PINE BLISTER RUST.** See BOTANY under *Plant Diseases*.

**WHITE PLAINS, BATTLE OF.** See CELEBRATIONS.

**WIEDFELDT, OTTO.** German industrialist and diplomat, died at Essen, July 5. He was born in Germany in 1871, the son of a successful manufacturer, and in his education specialized in law and economics. After being employed in the ministry of the interior, he went to Japan, where he represented large German concerns. He also filled the post of commercial adviser to the Japanese Government. On his return from Japan in 1914, Dr. Wiedfeldt spent several months in the United States, and soon after the outbreak of the World War he took up an important position in the office of the Reich Wirtschaft. He instituted the bread-rationing system, and remained bread administrator until June, 1918, when he became a director of Krupp's. After the War he began the gigantic task of reorganizing this plant for peace production. He was a delegate to the Spa Conference of 1920, where he and the late Hugo Stinnes opposed strongly the delivery of coal as part of the reparation to be demanded by the peace treaty. He was appointed German Ambassador to the United States, in which capacity he served from 1922 to 1925.

**WILCOX, MARRION.** American author and editor, died in New York, N. Y., Dec. 26. He was born Apr. 3, 1858, at Augusta, Ga., and graduated from Yale in 1878. Two years later he was admitted to the New York bar, studying law at Hamilton College. He prosecuted special studies in Europe at the universities of Oxford, Jena, Heidelberg, and Berlin, from 1881 to 1883, and served as an instructor at Yale University, 1884-86. In 1906-07 he visited Mexico and South America, and on his visit in 1907, at the request of Yale University, he suggested an interchange of professors between the United States and South American countries, stressing particularly the need for such interchange with Mexico, Brazil, and Argentina. He was the author of *A Short History of the War with Spain*; *Harper's History of the War in the Philippines* (1900), *Sketches in Spain, England and Italy*, and a novel, *For Labour* (1923).

**WILFLEY, LEBREUS REDMAN.** American jurist and judge, died at Greenwich, Conn., May 26. He was born in Audrain County, Mo., Mar. 30, 1866, and graduated from the Central College at Fayette, Mo., in 1880. In 1892 he received the degree of LL.B. at Yale, and in the following year he was admitted to the bar. From this time until 1901 he engaged in general practice at St. Louis, Mo., and from 1901 to 1906 he was attorney general for the Philippine Islands. In 1904 he was United States delegate to the Universal Congress of Lawyers and Jurists, at St. Louis, and from 1906 to 1909 he was a judge of the United States court for China.

**WILLCOCKS, SIR JAMES.** British soldier and former Governor General of Bermuda, died Dec.

18, at Bhartapur, India. He was born in 1857 in Delhi, India, and from 1879 to 1908 he was an active participant in many of the important campaigns of the British forces in India and West Africa. At the beginning of the World War he was chosen to command the large force of Indian troops sent to France. This command he resigned in December, 1915, and in 1917 he was appointed Governor General of Bermuda, where he remained until 1922. In 1918, Amherst College, in Massachusetts, conferred upon him the honorary degree of Doctor of Laws. He received his knighthood in 1900 for conspicuous devotion to duty and gallantry in face of the enemy's fire. Among his numerous decorations was the Distinguished Service Order, and he also received the freedom of the City of London, and a sword of honor. During his Governor Generalship, Bermuda returned to pre-war prosperity.

**WILLIAM AND MARY, COLLEGE OF.** A coeducational college at Williamsburg, Va.; founded in 1693. The enrollment for the fall semester of 1926 was 1003, of whom 477 were women and 526 were men. The summer session of 1926 had 800 students. There were 65 members in the faculty, an increase of nine over 1925. The college had productive funds to the amount of \$55,390, and the income for the year was \$1,091,254. The library contained 49,000 volumes. During the year gifts to the amount of \$212,415 were received, and three new buildings, Kate Waller Barrett dormitory for girls, William Barton Rogers Science Hall, and Old Dominion Hall for men, were erected. President, Julian A. C. Chandler, Ph.D.

**WILLIAMS, JOHN SKELTON.** American banker, died at Richmond, Va., November 4. He was born in Powhatan Co., Va., July 6, 1865, and was educated at Richmond schools and at the University of Virginia. He saw the need for another great coastal railroad, and organized the Seaboard Air Line, acting as its president from 1899 to 1904. He was almost constantly in conflict, having many differences on questions of policy with the American Bankers' Association. He also was in controversy with the Riggs National Bank of Washington, one of the largest financial institutions in the East, and he issued vigorous criticisms of the Federal Reserve Board. In 1914, strongly supported by Secretary of the Treasury McAdoo, Mr. Williams was appointed by President Wilson to be controller of the currency, but his confirmation was opposed in the Senate. The Senate committee's report completely vindicated Mr. Williams, and he was duly confirmed, becoming ex officio a member of the organization committee of the Federal Reserve Board. He was reappointed in 1919, but on this occasion failed of confirmation. In 1917-18 he served as director of finance and purchases for the United States Railroad Administration. In 1924 he became president of the Richmond Trust Company, a position he held at the time of his death.

**WILLIAMS COLLEGE.** A non-sectarian college for men at Williamstown, Mass.; founded in 1793. The enrollment for the autumn of 1926 was 781, of whom 774 were undergraduates and 7 graduate students. There were 81 members on the faculty, of whom four were absent on leave and 16 were new additions. The productive funds amounted to \$5,315,955 and the income for the year 1925-26 was \$585,945. The

library contained 116,000 volumes and 20,000 pamphlets. During the year a new field house was built, and Lawrence Hall was remodeled for recitations. A system by which juniors and seniors of good scholarship are permitted to do "honors work" in the department of their choice was inaugurated in 1926. President, Harry Augustus Garfield, L.H.D., LL.D.

**WILSON AWARD.** See WOODROW WILSON AWARD.

**WILSON DAM.** See MUSCLE SHOALS.

**WINDWARD ISLANDS.** The name applied to a group of islands in the West Indies, comprising Grenada, St. Vincent, and St. Lucia, together with the Grenadines (which are one-half under Grenada and one-half under St. Vincent); forming the eastern limit of the Caribbean Sea between Martinique and Trinidad; a British possession. (See articles on the islands mentioned above.) Each of the islands is under its own institutions, but they are united for certain common purposes and have a court of appeals. Governor and commander-in-chief in 1926, Sir Frederick Seton James.

**WIRELESS TELEGRAPHY.** See RADIO TELEGRAPHY AND TELEPHONY.

**WISCONSIN. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 2,632,067. The estimated population on July 1, 1926, was 2,885,000. The capital is Madison.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	3,368,000	5,742,000 <sup>a</sup>	\$86,130,000
	1925	3,362,000	5,486,000 <sup>a</sup>	76,804,000
Corn	1926	2,119,000	73,106,000	54,830,000
	1925	2,185,000	101,602,000	73,153,000
Oats	1926	2,577,000	96,638,000	38,655,000
	1925	2,603,000	126,246,000	47,973,000
Potatoes	1926	230,000	27,140,000	32,568,000
	1925	211,000	23,632,000	40,174,000
Barley	1926	521,000	17,974,000	11,683,000
	1925	461,000	16,965,000	11,197,000
Rye	1926	256,000	3,840,000	3,226,000
	1925	256,000	3,789,000	2,880,000
Tobacco	1926	29,000	33,350,000 <sup>b</sup>	4,269,000
	1925	32,000	44,000,000 <sup>b</sup>	7,260,000
Wheat, winter	1926	65,000	1,339,000	1,674,000
	1925	53,000	1,007,000	1,370,000
Wheat, spring	1926	63,000	1,260,000	1,588,000
	1925	60,000	1,260,000	1,714,000

<sup>a</sup> tons. <sup>b</sup> pounds.

**MINERAL PRODUCTION.** Stone, the chief of the State's mineral products, was produced to the quantity of 2,221,910 short tons in 1924 and 2,488,180 in 1923; valued at \$4,087,133 for 1924 and for 1923 at \$4,590,528. Iron ore, 933,214 long tons in 1925 and 786,006 in 1924, had a value of \$2,260,388 in 1925 and in 1924 of \$2,044,762. Pig iron production rose to 226,712 long tons for 1925 from 172,435 for 1924; its value was \$4,830,952 in 1925 and in 1924, \$3,945,369. Sand and gravel production amounted to 5,713,956 short tons in 1924 and 5,021,608 in 1923; in value, \$2,703,475 in 1924 and in 1923, \$2,793,999. The lime produced totaled 243,000 short tons (estimated) in 1925 as against 235,030 in 1924; its value was \$2,140,000 (estimated) for 1925 and for 1924, \$2,129,701. Zinc, clay products, lead, and manganiferous ore were produced. The total value of the State's mineral production, duplications excluded, was in 1924, \$15,796,720; in 1923, \$19,089,600.

**FINANCE.** As summarized by the United States Department of Commerce, payments for the maintenance and operation of the general departments of the State in the fiscal year ending June 30, 1925, were \$26,381,205. Their rate per capita was \$9.47, as against \$9.20 in 1924 and \$6.04 in 1918. Their total included \$4,859,583 for education, apportioned among the minor State divisions. Payments amounting to \$137,459 for interest on debt and \$5,480,068 for permanent improvements, added to payments for maintenance and operation of the State departments, made the year's total of State payments \$31,998,732. For highways was expended the sum of \$7,096,956, of which \$3,581,472 was for maintenance and \$3,515,484 for construction.

Revenue receipts of the State were \$30,502,615, or \$13.10 per capita. They exceeded by \$9,983,951 the total payments except those for permanent improvements, and, furthermore, exceeded by \$4,503,883 the total with these included. Revenue not otherwise used was invested or carried in the State's cash balances. Property and special taxes formed 51.8 per cent of the revenue in 1925, as against 53.1 in 1924 and 62.5 in 1918. Their per capita rate was \$6.79 in 1925, \$7.25 in 1924 and \$4.40 in 1918. Earnings of the departments and compensation for officials' services furnished 9.1 per cent of the 1925 revenue; business and non-business licensees, 25.8 per cent. License receipts included those from taxes on corporations, on gasoline sales and on motor vehicles.

The net indebtedness of the State on June 30, 1925, was \$1,863,700, or 67 cents per capita; in 1924, 71 cents and in 1918, 76 cents. The assessed valuation of property subject to State tax in 1925 was \$5,448,977,317. The State tax levy was \$15,067,064, or \$5.41 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 7500. No new construction was reported in 1926. The Chicago, Milwaukee and St. Paul abandoned lines between Tomah and Norway and between Wausaukee and Girard Junction, totaling 30 miles. The Fairchild and Northeastern abandoned 42 miles of line in 2 stretches between Fairchild and Cleghorn and between Greenwood and Owen.

**EDUCATION.** It was announced that under the new requirements no license or certificate to teach in a public school of the State would be granted after September, 1927, to any person unless presenting as qualification at least one year of professional training subsequent to high-school graduation. The county rural normal schools and high-school training departments adopted the practice of enrolling high-school graduates only. Very heavy growth of summer-school attendance was reported, with increase likewise of interest in the profession of teaching. The school population of the State in the scholastic year 1925-1926 was 877,792. There were enrolled in the public schools 513,456 pupils, of whom 413,875 were in the common schools and 99,581 in the high schools. Expenditures for the common schools attained \$49,482,939. Salaries of teachers averaged about \$1350 per annum.

**CHARITIES AND CORRECTIONS.** The chief among the charitable and correctional institutions of the State are two hospitals for the insane, the industrial school for boys and the one for girls, the State prison, State reformatories, sanitariums, and the Wisconsin workshop for the blind.



The State board of control has authority over charitable and penal institutions.

**POLITICAL AND OTHER EVENTS.** At the general election, November 2, F. R. Zimmerman, Republican, was elected Governor, over a divided opposition, which included Charles Perry, Independent Republican, and the Democratic candidate, V. H. Cady. Gov. John J. Blaine, the Republican candidate for Senator, had 6 opponents, of whom Charles D. Rosa, Independent candidate, was the most formidable. Blaine was elected to the six-year term in the U. S. Senate; ten Republicans and 1 Socialist, Victor L. Berger, were elected to the United States House of Representatives. A State referendum to determine the wishes of the electorate as to a modification of the Volstead law so as to permit sale of beer of 2.75 per cent alcohol content was submitted to the voters, who gave a decisive majority in favor of modifying the law.

State officers elected for the ensuing term were Henry A. Huber, Lieutenant-Governor; Theodore Dammann, Secretary of State; Solomon Levitan, Treasurer; John W. Reynolds, Attorney General. A referendum proposal for the recall of State officers received a majority vote of 4743.

The Wisconsin law providing that all transfers of property made within six years prior to the death of a donor, in which no valuable consideration enters, must be construed as having been made in contemplation of death and with a view to evading payment of inheritance tax, was set aside as invalid in an opinion by Associate Justice McReynolds rendered March 1 by the United States Supreme Court. A decision by the Wisconsin courts upholding the State law was reversed. The Milwaukee zoning ordinance was upheld by the Wisconsin Supreme Court, December 7, in a decision sustaining the city authorities' refusal to allow erection of an apartment house.

**OFFICERS.** Governor, John J. Blaine; Lieutenant-Governor, Henry A. Huber; Secretary of State and State Auditor, Fred R. Zimmerman; Treasurer, Solomon Levitan; Attorney-General, Herman L. Ekern; Superintendent of Schools, John Callahan.

**JUDICIARY.** Supreme Court: Chief Justice, Aad. J. Vinje; Associate Justices, Marvin B. Rosenberry, Franz C. Eschweiler, Walter C. Owen, Christian Doerfler, Charles H. Crownhart, and E. Ray Stevens.

**WISCONSIN, UNIVERSITY OF.** A State institution of higher education at Madison, Wis.; founded in 1848. The enrollment for the autumn of 1926 was 8220, distributed as follows: Letters and science, 5945; music, 136; medicine, 249; law, 256; engineering, 926; agriculture, 678; library, 30. For the summer session the registration totaled 5060, with the following distribution: Letters and science, 4323 (including medicine); music, 44; law, 110; engineering, 226; agriculture and home economics, 309; library, 48. In the autumn of 1926 the faculty numbered 1124, of whom 270 were additions. The productive funds amounted to \$864,066, and the income for the year to \$8,951,340. The library contained 735,000 volumes and 376,000 pamphlets. New buildings completed during the year were nurses' dormitories, men's dormitories, and an addition to Bascom Hall. The Union Memorial Building was under construction. Gifts to

the amount of \$73,702 were received for the Union Memorial Building Fund. The medical school course was lengthened to four years, granting the degree of M.D. President, Glenn Frank, M.A., L.H.D., Litt.D., LL.D.

**WOMAN'S CHRISTIAN TEMPERANCE UNION, NATIONAL.** A non-partisan and non-sectarian national movement which has as its purpose the protection of the homes by the abolition of the liquor traffic. It has branches in every State in the Union, and in the District of Columbia, Alaska, Hawaii, Canal Zone, Porto Rico, and the Philippines. Under the motto, "For God and Home and Every Land," it conducts activities in every line of service in the home and in social and civic life. A young people's branch comprises both young men and women united for temperance and prohibition. It issues a monthly *Bulletin* containing news and items of general interest. The official organ of the Union is *The Union Signal*. *The Young Crusader* is devoted to boys and girls. The officers in 1926 were: President, Miss Anna A. Gordon; vice-president at large, Mrs. Ida B. Wise Smith; corresponding secretary, Mrs. Frances P. Parks; recording secretary, Mrs. Sara M. Hoge; assistant recording secretary, Mrs. Welle G. Burger; treasurer, Mrs. Margaret C. Munns. The main headquarters are at Evanston, Ill.; the legislative headquarters at 122 Maryland Ave., N. E., Washington, D. C.

**WOMEN IN INDUSTRY.** The tenth annual convention of the National Women's Trade Union League was held at Kansas City, June 28-July 3. Miss Rose Schneiderman was elected president for the next year, and Mrs. Raymond Robbins was chosen honorary president. The convention stressed the need of educational work and organization in the new industrial South, where large numbers of women were employed as textile operators. It also urged the collection and publication, by the State departments of labor, of monthly statistics of employment and earnings of women in industry. The publication of such figures, it was held, would have a regulative effect upon employment.

An appeal was made to the President, the national Congress, the Governors and state legislatures, requesting the right to organize for women in industry and for legislation granting an eight-hour day and one day's rest in seven.

In its Federal legislative programme the league put the ratification of the proposed child-labor amendment as of first consideration. The convention voiced its opposition to another proposed amendment—namely, that championed by the National Woman's Party and providing for equal treatment of men and women in industry. The convention believed that what was needed was the protection of women in industry, and not an equal bill of rights in the Constitution.

The controversy over the equal rights amendment came up to plague the Women's Bureau of the Department of Labor in its preliminaries for an investigation of the effects of special legislation on the employment of women in industry. A resolution calling for such an investigation had been passed at the Women's Industrial Conference, which was convoked in January under the auspices of the Women's Bureau. Thereupon the bureau undertook the formation of an advisory committee composed of one representative each from the American Federation of Labor, the National Women's Trade Union League, and the Women's Committee Opposing the So-Called



"Equal Rights" Amendment; and of three representatives from the National Woman's Party, which is opposed to special legislation and champions the equal rights amendment. After a number of meetings, the first three delegates resigned because they felt they could no longer serve to good purpose with the other members of the committee. Despite their withdrawals, these delegates offered the full coöperation of their organizations towards the completion of the Women's Bureau investigation. But, unfortunately, as the chief of the bureau, Miss Mary Anderson, remarked in her annual report, similar coöperation was refused by the other delegates; that is to say, by the delegates opposed to special legislation with regard to women in industry. The bureau's agents, however, in conducting the field investigations, made every effort to get in touch with individuals and groups opposed to such legislation, "so that the facts of their experience may be recorded and examined."

The investigation was not completed in 1926, and its results would not be made known for some time. Other important investigations carried on by the Women's Bureau during the year related to night work for women, changing jobs, lost time and labor turnover, the status of women in the government service, and foreign-born women in industry. A piece of historical research on the history, operation, and administration of the various minimum wage laws in the United States was completed for publication at the end of the year.

#### WOMEN'S ATHLETIC COMPETITIONS.

See ATHLETICS, TRACK AND FIELD.

#### WOMEN'S CLUBS, GENERAL FEDERATION OF.

An organization founded in 1889 and chartered by Act of Congress Mar. 3, 1901. It is composed of local clubs in the United States and other countries, and its purpose is "The Betterment of Life." In addition to local clubs there were, in 1926, seventeen national organizations and fifty-seven clubs in foreign and territorial countries affiliated with the Federation. It is governed by a General Board and the work is divided into eight departments: American citizenship; the American home; education; fine arts; international relations; legislation; press and publicity; and public welfare. Other activities, not in departments, are: Federation extension through the organization of clubs in rural districts and the organization of juniors in senior clubs; contact with clubs and organizations in other countries; medical scholarship loan; Pan-American scholarship. In 1926 there were in all 125 activities sponsored by the Federation and conducted through the local and State federations, the most important being a survey of adult illiteracy with a view to its elimination. The official organ is the *General Federation News*. Headquarters are at 1734 N Street, N. W., Washington, D. C. Mrs. John D. Sherman was president and Miss Josephine Junkin director of headquarters.

**WOOD, CHARLES.** British composer, died in London, in July. He was born at Armagh, Ireland, June 15, 1866. After graduation from the Royal College of Music he taught for a time. In 1888-94 he was conductor of the Cambridge University Musical Society, and in 1889-97 bandmaster of the university volunteers. In 1924 he succeeded Sir Charles Stanford as professor of music at Cambridge University. Although his compositions are highly esteemed in England,

and have figured extensively on the programmes of all the great English festivals, they are practically unknown outside the British Isles. He wrote chiefly cantatas and ballads for soli, chorus and orchestra but also, a piano concerto and some chamber music.

**WOOD, FRANCIS DERWENT.** British sculptor, died February 19. He was born at Keswick, England, in 1871, and was educated in Switzerland and Germany. He began his artistic career at Karlsruhe, Germany, and returning to England in 1889 he studied under Professor Lanteri at South Kensington, London. He was a Royal Academy student, and in the years 1894-95 was assistant to Thomas Brock, R.A., becoming a gold medalist of the Royal Academy in 1895. In the same year he gained a traveling studentship from the academy, and two years later he won an award at the Paris Salon. He was made an Associate of the Royal Academy in 1910, and in 1920 he became a full Royal Academician. During the World War he supervised the making of masks for facial wounds. He was professor of sculpture at the Royal College of Art, South Kensington. His principal works include a statue of Queen Victoria, executed for Patiala, in India; a statue of Sir Titus Salt, Saltaire, and a statue of the Rev. Dr. C. H. Spurgeon placed before the Baptist Church House in London. In 1914 he made a bust of Henry James. He also executed four statues of the arts for the Glasgow Art Galleries, Scotland, and the Pitt statue for Washington, to celebrate the hundred years' peace.

**WOOD, WILLIAM MADISON.** American woolen manufacturer, died Feb. 2. He was born Apr. 5, 1858, at Edgartown, Mass., and was educated at the public schools. He began as a clerk in the office of the Wamsutta Mills, and later interested himself in banking and brokerage and other businesses. He joined in a merger of woolen mills in 1900, and later became president of the American Woolen Co., then comprising 28 mills. He was also president of the Woolen and Worsted Mills, Inc., the Shawshen Mills, the Washington Mills, in Lawrence, Mass., the National and Providence Worsted Mills, Rhode Island, and of the Kilburn Mills. He was also a director of the Merchants' National Bank, of the Chase National Bank, New York, and other corporations.

**WOOD PULP.** See FORESTRY; PAPER.

**WOODROW WILSON AWARD.** To Elihu Root was awarded the Woodrow Wilson Foundation Medal for 1926 and \$25,000, for his services in helping to create the World Court. Although the services were rendered in 1920, the Foundation was influenced in this instance by the manifestation of their importance shown in the growing prestige of the World Court. Norman Davis, the President of the Foundation, said: "Mr. Root's ambition for world peace has long been manifested. When the Council of the League of Nations in 1920 requested a committee of ten men to draw up a protocol for the establishment of a permanent court of international justice, Mr. Root was one of those chosen. Previously, in the year 1907, Mr. Root as Secretary of State, had formulated the instructions to the American delegates to the second Hague conference. Mr. Root in 1920 solved the difficulty that arose at The Hague conference over the election of Judges for a World Court. He recommended the plan that the nominations be made from the different groups of nationals represented at The Hague

tribunal and that these nominations be voted upon by an electoral college composed of the Council and the Assembly of the League of Nations."

Mr. Root received the award and medal at the dinner of the Woodrow Wilson Foundation in New York, December 28, given in celebration of Woodrow's Wilson's 70th birthday and presented the same to *Foreign Affairs* (a quarterly) to be used as the nucleus of an endowment fund.

**WOOL.** The sheep industry in 1926 enjoyed its fifth consecutive prosperous year, the prices encouraging expansion, notably in areas especially suited to it. World stocks of old wool were reduced to a low point at the end of the last season, which was favorable. Prices declined during the first two-thirds of the year, but later advanced sharply. The wool clip of 1926, as estimated by the Department of Agriculture, was 269,054,000 pounds, compared with 253,907,000 in 1925, an increase of more than 15,000,000. The average weight of fleece was 7.8 pounds in both years. Texas produced the largest amount, 25,804,000 pounds, followed by Wyoming with 24,132,000, Montana with 23,100,000, and Utah with 20,322,000 pounds. Approximately two-thirds of the clip was supplied by the Western group of States, exclusive of Texas.

Australia was the greatest sheep and wool producing country, furnishing an average of 23 per cent of the world's wool supply during 1920-24. The 1925-26 wool clip of that country amounted to 770,000,000 pounds, and it was estimated to be a little larger for 1926-27, although earlier predictions were cut by severe stock losses, through drought, in Queensland. Increased wool production was also indicated for Argentina; it was estimated at between 305,000 and 310,000 bales.

The production of mohair in Turkey appeared to be in a very strong position and on the increase; over 37,000 bags of 200 pounds each were sold in Constantinople up to October, as compared with a total of 14,000 bags in 1925.

A Wool Council of America was formed in Boston, to regain the ground lost to the silk and rayon industries in demand for cloth made from wool. The Eastern Wool Growers' Association, Inc., was formed, with headquarters at Baltimore; it was expected to market more than a half million pounds of wool during the year. A wool breeding council was appointed in England to encourage the improvement of wool, which varies widely in quality. Italian synthetic wool (see *CHEMISTRY, INDUSTRIAL*), which was placed upon the market, did not replace wool but was inferior, according to experts; however, fear was expressed that it might be used to adulterate pure wool. Twelve United States grades for wool and top, based on the numerical count system, were unanimously approved by all branches of the wool industry in April, in place of seven formerly recognized. The standards have been approved by the British wool trade, and their adoption is under consideration by other European and by South American countries. See *LIVESTOCK*.

**WORCESTER POLYTECHNIC INSTITUTE.** A non-sectarian institution for the technical education of men at Worcester, Mass.; founded in 1865. The enrollment for the autumn of 1926 totaled 567, distributed as follows: Studying mechanical engineering, 102; in civil engineering, 63; in chemistry, 39; in general

science, 3; in electrical engineering, 177; and 183 freshmen, all of whom take the same course of study. The faculty numbered 57. The productive funds of the institute amounted to \$2,612,000, and the income for the year to \$308,000. There were 20,000 volumes in the library. The principal addition received during the year was a new swimming pool, given by Henry J. Fuller and J. E. Aldred; and a hydraulic laboratory, given by George I. Alden, was completed. Other new buildings completed in 1926 were a garage and athletic storage building, and a field house on the athletic field. Sanford Riley Hall, a freshman dormitory, was under construction. President, Ralph Earle, Captain, U.S.N., retired, D.Sc., D.Eng.

**WORKMEN'S COMPENSATION.** With the ratification by popular referendum of the Missouri workmen's compensation act, only five states and the District of Columbia remained at the close of the year 1926 without this form of protection against industrial accidents and injuries. These five states are all in the non-industrial South. Seven states, including New York, Massachusetts, and Rhode Island, increased the protection of the compensation laws, and New Jersey added radium necrosis to the list of compensable industrial diseases. The Federal government provided increased medical assistance (under the accident compensation law) for its civilian employees. Commissions to study the operation of existing workmen's compensation laws and to recommend new legislation were established by Massachusetts, Rhode Island, and Virginia. The New York legislature (partly with the political purpose of postponing the redemption of campaign pledges) created a commission with authority to investigate generally conditions and legislation affecting the safety and welfare of wage workers.

Against this credit side of the ledger must be put the failure of Congress to pass the proposed bill affording compensation protection to harbor workers and longshoremen. This class of workers cannot be protected by State laws, since their calling—exceptionally hazardous though it is—falls within interstate commerce. We give below a summary of the 1926 legislation relating to workmen's compensation. The summary follows the abstract of this legislation printed in the *American Labor Legislation Review*.

**KENTUCKY.** In an amendment to the workmen's compensation laws, the State empowered the board to appoint as assistant an actuary at \$3500, instead of a medical director at \$3000, and to order fee to be paid direct to claimants' attorneys, commuting to a lump sum for that purpose part of the final payments of the award. The definition of employer was extended to cover all departments of the State government. The periods of suspension of employment during which employees' acceptance remains effective was limited to less than one year, and the procedure in cases appealed to courts was changed.

**LOUISIANA.** Under the amendment to existing laws, the term employee and independent contractor were specifically defined, and the responsibility of the sub-contractor for payment of compensation was made more definite. The number of weeks for which compensation is due for loss of an arm was raised from 175 to 200, while the number for the loss of a leg was reduced from 200 to 175. Compensation for permanent partial loss of use of any member was declared

to be in proportion to the loss of use of such member. Certain cases of hernia were declared compensable as temporary disability and entitled to specific medical attention. The provisions regarding division of death benefits among dependents and termination of payments were revised.

Permission of court to lengthen interval between compensation payments to one month by agreement is no longer required, and in cases of temporary disability the court may award compensation for a number of weeks based upon the probable duration of disability. Commutation of payment to a lump sum is permitted when approved by the court, but such settlement without approval of the court or at a discount of more than 8 per cent per annum makes employer liable for payment of one and one-half times instead of twice the original award if demanded within two instead of five years after payment of lump sum. Regulations concerning procedure in settlement of disputed cases by court were revised and expanded; proceedings, for compensation or concerning an award, which in the judgment of the court have not been brought on reasonable grounds shall be defrayed entirely by the party bringing the action. Maximum fees for attorneys were prescribed, and soliciting of business is declared a misdemeanor. Insurance regulations were also modified.

**MASSACHUSETTS.** An amendment to existing laws added to the list of persons to be conclusively presumed to be wholly dependent upon a deceased employee, a parent, an unmarried child under the age of eighteen years, provided that such child was living with the parent at the time of the injury resulting in death. A commission of five citizens was appointed by the governor, with the advice and consent of the council, to investigate the present workmen's compensation law and to recommend changes.

**MISSOURI.** The workmen's compensation act, which was passed by the legislature of 1925, was ratified by popular referendum at the 1926 election, and was promulgated by the governor on November 16, to go into full effect on Jan. 9, 1927.

**NEW JERSEY.** By amendment to existing laws, radium necrosis was added to the list of compensable occupational diseases.

**NEW YORK.** Under the new amendments to the workmen's compensation laws, officials were forbidden to require a fee for issuing transcript of judgment in cases of default in compensation payment; the department of labor was empowered to subpoena books, papers, etc., along with persons; individual employers and executive officers of corporations were no longer required to perform labor incidental to their occupations in order to elect compensation insurance for themselves; an employer or a carrier was required to give notice to the industrial commissioner whenever for any reason compensation payments cease, instead of when final payment is made or due; notice of death for which compensation is payable was to be given within thirty days after accident, but knowledge of death on part of the employer or his agents was made grounds for excusing failure to give notice; the president, the secretary and the treasurer of a corporation were made liable for failure of a corporation to insure its employees; requirements as to workmen's compensation insurance rates were revised, as were also the regulations as to investment of the State fund's surplus and reserve; expenses

of examination of affairs of the State fund are now chargeable to the fund. The State Labor Department is to be reorganized according to the ratification of the amendment of the State constitution in November, 1925, the successor to the then commissioner having a term of office coincident with the term of the governor making the appointment and being removable when in the judgment of the governor the public interest shall so require. His salary was increased from \$10,000 to \$12,000.

**RHODE ISLAND.** An amendment to the workmen's compensation laws prescribes in detail the schedule of charges for which the employer shall be responsible. In the case of an agreement between the employer and the employee, approved by the commissioner and involving future payments of compensation aggregating not more than \$50, the attorney general shall, at the written request of the commissioner, prosecute action to compel either party to the agreement to comply with its terms. A commission of seven qualified electors, including two members of the house and two of the senate, was appointed by the governor to investigate the proper method of the administration of the workmen's compensation law.

**VIRGINIA.** Under an amendment to the existing laws, the definition of employee was extended to include members of the national guard; their average weekly wage was deemed, for the purposes of the act, to be \$30. An unpaid commission of five qualified voters was authorized to investigate insurance rates, including those for workmen's compensation, in Virginia and other States, to ascertain whether unjust discrimination is made by insurance companies against employers in Virginia.

**WASHINGTON.** By the amendments passed in 1925 the provisions of the workmen's compensation law are now to apply to all maritime workers not covered, in the case of personal injury or death, by the United States maritime laws, instead of only to those whose payrolls for work on shore and off shore are clearly separable. When the employer is unable to make an accurate segregation of such payrolls, the director of the department of labor and industries is authorized to make such segregation and, on this basis, the employer is to pay into the accident fund to cover the shore part of such employees' work. Independent contractors engaged through or by their employees to perform extra-hazardous work for a common carrier by railroad are specifically included under the provisions of the workmen's compensation law.

**UNITED STATES.** Under laws passed by the 69th Congress, 1st session, the provision for medical and surgical aid is liberalized so as to include all services, appliances and supplies which in the opinion of the commission are likely to give relief or reduce degree or period of disability and all expenses therewith. Provision regarding expenses is to apply to previous awards of the commission.

**FRANCE.** A number of amendments to the French workmen's compensation laws were passed during the year, reports the *Monthly Labor Review*. Laws dated July 9 and June 30 amend the industrial compensation legislation, which dates back originally to 1898, by increasing the basic figure upon which compensation is calculated. It should be borne in mind that compensation is not based upon the actual monetary

wage, but is calculated as a percentage of a minimum scale plus proportionately smaller allowances for wages that are in excess of the minimum. Inasmuch as franc wages have increased with the depreciation of the French currency, the minimum wage figure had become antiquated. In addition to these amendments, a law passed April 30 amends the agricultural compensation act of 1922 by removing the exemption for farmers working alone or with their families and occasionally assisted by hired men. Hereafter such farmers are liable for accidents to either paid or unpaid workers.

#### WORKMEN'S COMPENSATION INSURANCE. See INSURANCE.

**WORLD COURT.** The Permanent Court of International Justice, with headquarters at The Hague (see YEAR BOOK for 1922, 1923, 1924, and 1925), had, from the time of its institution in 1922 to the end of the year 1926, rendered seven judgments and handed down 13 advisory opinions. Five of these judgments and twelve of the advisory opinions were discussed in the issues of the YEAR BOOK for 1925. The sixth and the seventh judgments were concerned with the conflict between German and Polish interests in Upper Silesia. The sixth judgment was rendered on objections taken by Poland, and the seventh on the merits of the case. The sixth was rendered Aug. 25, 1925; the seventh May 25, 1926. "The decision of the World Court, awarding to its German owners the Chorzow nitrogen works in Upper Silesia, is very gratifying to Germany, as they believe that the precedent created will enable them to recover from Poland a large amount of property lost through the alienation of that property," said *Current History* (New York).

The twelfth advisory opinion, handed down July 23, 1926, was concerned with the interpretation of Article 3, Paragraph 2, of the Treaty of Lausanne, governing the frontier between Turkey and Irak. The parties to the dispute were Great Britain and Turkey. (For details, see MESOPOTAMIA.)

The thirteenth advisory opinion was handed down July 23, 1926, in the matter of the competence of international labor organizations to regulate, incidentally, the personal work of the employer. The interested parties in the matter were international labor organizations, the international organization of industrial employers, the International Federation of Trade Unions, and the International Federation of Christian Trades Unions.

Announcement was made, during the year, that 31 of the 75 articles of constitution of the Court which went into effect Mar. 24, 1922, had been revised. The bulk of the changes are concerned with the methods of procedure of the Court. Several related to the rendering of advisory opinions, and had a bearing on the fifth reservation made by the United States on its proposed adherence to the Court. (See below.) Under the new rules, the Court will sit in private to deliberate upon advisory opinions. The rules provide also for a method of procedure to be followed by any state desiring to intervene in the rendering of an advisory opinion. Under the new rules, judges dissenting from an advisory opinion of the Court may attach to the opinion of the Court either an expression of their individual opinions or a statement of their dissent.

**THE UNITED STATES AND THE WORLD COURT.** On Jan. 27, 1926, the United States Senate, by a

vote of 76 to 17, passed a resolution agreeing to the adherence of the United States to the Permanent Court of International Justice (the "World Court"), with five reservations. (A summary of the reservations will be found in the article, UNITED STATES, *Sixty-ninth Congress, Action on the World Court Protocol*.) Secretary of State Kellogg promptly communicated this action to the states that had signed the Court protocol, asking them individually to inform him whether or not they accepted these reservations as a "part and condition" of American adherence.

Secretary Kellogg, on March 2, wrote to the Secretary General of the League of Nations, referring to the State Department's receipt, in 1921, of the protocol of the Court, and informing him of the Senate resolution of 1926 and of the communication then being sent to every member nation of the Court. Mr. Kellogg said in part: ". . . The signature of the United States will not be affixed to the said protocol until the governments of the powers signatory thereto shall have signified in writing to the government of the United States their acceptance of the foregoing conditions, reservations and understandings as a part and condition to the adherence of the United States to the said protocol and statute."

When Mr. Kellogg's letter to the Secretary General was brought up, on March 18, at a meeting of the Council of the League of Nations, Sir Austen Chamberlain pointed out that the special conditions on which the United States desired to adhere to the Court could not appropriately be embodied in a series of separate exchanges of notes, but would need to be embodied in a special agreement or protocol between the present member nations of the Court on the one hand and the United States on the other. He further said: "The terms of the fifth reservation necessitate further examination before they could safely be accepted by the states which are parties to the Court protocol. This paragraph is capable of bearing an interpretation which would hamper the work of the Council and prejudice the rights of members of the League, but it is not clear that it was intended to bear any such meaning."

On Sir Austen's recommendation, the Council decided to call a conference of representatives of the member nations of the Court and of the government of the United States, to be held in Geneva on September 1, to facilitate common action on the American reservations by all the member nations of the Court and to frame any new agreement that might be found necessary to give effect to the special conditions on which the United States was willing to adhere to the Court.

The Government of the United States on March 29 received from the Secretary General of the League an invitation to participate in such a conference. The letter of invitation made it clear that it was to be a conference of the signatory states of the Court protocol and the United States. This invitation was declined by the United States. Secretary Kellogg's reply emphasized that the United States expected the reservations to be acted upon and replied to by the signatory nations acting individually and directly. His letter was, in part, as follows:

I do not feel that any useful purpose could be served by the designation of a delegate by my government to attend a conference for this purpose. These reservations are plain and unequivocal, and according to their terms they must be accepted by an exchange of notes between the United States and each of the forty-eight states sig-

natory to the statute of the Permanent Court before the United States can become a party and sign the protocol. The resolution specifically provided this mode of procedure.

I have no authority to vary this mode of procedure or to modify the conditions and reservations or to interpret them, and I see no difficulty in the way of securing the assent of each signatory by direct exchange of notes, as provided for by the Senate. It would seem to me to be a matter of regret if the Council of the League should do anything to create the impression that there are substantial difficulties in the way of such direct communication. This government does not consider that any new agreement is necessary to give effect to the conditions and reservations on which the United States is prepared to adhere to the Permanent Court. The acceptance of the reservations by all the nations signatory to the statute of the Permanent Court constitutes such an agreement. If any machinery is necessary to give the United States an opportunity to participate through representatives for the election of judges, this should naturally be considered after the reservations have been adopted and the United States has become a party to the statute of the Permanent Court of International Justice. If the states signatory to the statute of the Permanent Court desire to confer among themselves, the United States would have no objection whatever to such a procedure, but under the circumstances, it does not seem appropriate that the United States should send a delegate to such a conference.

Meanwhile, however, in advance of the conference, certain states, in reply to Secretary Kellogg's letter, accepted the American reservations; Cuba (March 17); Greece (April 9); Liberia (May 11); Albania (August 11); Luxembourg (August 21); and Santo Domingo, August 30, wrote that its representative at Geneva had been instructed to "vote for" the American reservations but that ratification by the legislature would be necessary.

The Geneva conference met on September 1, with 40 signatory states represented. It considered that an exchange of notes was not an adequate method of altering an international treaty like the statute of the Court. It proposed, as a necessary means of putting the American reservations into effect, a special agreement between the United States on the one hand and the other nations now in the Court on the other hand. It therefore drew up and accepted a preliminary draft protocol, embodying the conclusions reached on the American reservations, which, if ratified by all parties concerned, would have the same force and effect as the court statute. The conference had well in mind that the procedure prescribed by the Senate resolution necessitated an individual reply from each government. It maintained that an international treaty could not be amended by a series of individual notes.

Practically every speaker in the conference expressed the desire of his country to have the United States in the Court.

The first three reservations and part of the fourth were accepted unconditionally, but two provisions—the second part of the fourth reservation, and the fifth—the conference accepted conditionally; i. e. with the right to withdraw its acceptance of them if it should be found that the situation created by them was not workable—as the report puts it, "if it were found that the arrangement agreed upon was not yielding satisfactory results."

The conference hesitated on the second part of the fourth reservation (providing that the statute of the Court shall not be amended without the consent of the United States) because the conference was not clear as to exactly how the statute of the Court could be amended, and consequently not clear as to whether this reserva-

tion asked a special privilege for the United States or not. The Court statute had never yet been amended, and the point as to how it might be amended had not come up. There was no provision covering this in the statute.

So far as the first part of the fifth reservation was concerned, requiring that advisory opinions shall be rendered publicly after hearings, etc., the conference pointed out that the rules of the Court provide for full publicity in the procedure for reaching and rendering advisory opinions. The rules of the Court can be rather readily changed, and there is nothing in the less easily changed statute governing publicity for advisory opinions (and nothing about advisory opinions at all). Therefore, the conference further suggested—including in the suggested special agreement between the signatory nations and the United States the following article—that "the Court shall render advisory opinions in public sessions."

The real trouble-maker among the reservations was the second part of the fifth, asking for the United States the right to veto any request for an advisory opinion touching any question in which the United States "has or claims" an interest. Almost without exception, those present at the conference declared it was impossible to tell exactly what the United States was asking by this reservation. They found the wording inexact, puzzling, of indefinable implication. It was entirely clear that the conference did not object to the United States' making some reservations in the matter of advisory opinions. It was declared that no objection whatever would have been raised, for instance, to the reservation first approved by President Coolidge providing that "the United States shall not be bound by advisory opinions which may be rendered by the court upon questions which the United States has not voluntarily submitted for its judgment." But such a reservation, the conference pointed out, is very different from the present second part of the fifth which demands for the United States the right to prevent the giving of an advisory opinion in any case in which the United States "has or claims an interest."

The conference readily agreed that if the United States were a party to a dispute, it should have a right to veto the rendering of an advisory opinion upon that dispute. It further pointed out that the Court, not explicitly in any document, but implicitly in its operation to date, has recognized the right of either of the nations party to a dispute to prevent the giving of an advisory opinion. For instance, in the Eastern Karelia case, Russia, one of the parties, refused to appear, refused to furnish the Court with information, etc. and the Court therefore refused to give an advisory opinion in the case.

The Council and the Assembly are the only two agents with authority to request an advisory opinion from the Court. To the end of 1926, only the Council had actually made such requests. The votes thus far in the Council on this matter have been unanimous, but the requirement of a unanimous vote has never been established.

The conference was at a loss what to say to the United States. If a unanimous vote was required for requests for advisory opinions, then this reservation asked for the United States only a privilege already held by the members of the Council of the League. If only a majority is re-

quired, then this reservation would give the United States a special power of veto.

The conference formulated also the following as the 3rd paragraph of Article 4 in the suggested protocol to be made between the United States and the signatories: "Should the United States offer objection to an advisory opinion being given by the Court, at the request of the Council or the Assembly, concerning a dispute to which the United States is not a party, or concerning a question other than a dispute between states, the Court will attribute to such objection the same force and effect as attaches to a vote against asking for an opinion given by a member of the League of Nations either in the Assembly or the Council."

A further source of grave difficulty was seen by the conference in the lack of certain knowledge as to just what the procedure would be for applying the second part of the fifth reservation. What, they asked, were the relative powers of the President of the United States and the Senate in such a matter? The conference did not know whether, under the Constitution of the United States, it would be the duty of the Executive or Senate to state whether the United States had or claimed an interest in a dispute, and agreed to or objected to the giving of an advisory opinion, or whether such action could be taken by the executive only by and with the advice and consent of the Senate; if the latter, and if Congress were not in session, what could be done? Under the wording of the reservation, the Court cannot even "entertain a request" for an advisory opinion in such a case; and since the real use of the advisory function is to give an opinion on a specific point of law in an actually existing controversy, the delay in waiting for an expression of opinion from the United States might make it impossible to obtain the opinion in time to prevent the controversy from becoming acute.

Conditional acceptance of the fifth United States reservation would mean that if the Court may not entertain a request for an advisory opinion, after the Council or the Assembly has asked it to do so, without American consent, on any question in which the United States has, or claims, an interest, and if it takes so long to ascertain whether the country has or claims an interest, then the use of the Court in this way to bring about the peaceful settlement of international disputes is hampered, and the other nations will have to withdraw their acceptance of this reservation. They felt it necessary to make their acceptance of this reservation conditional, in order to safeguard this advisory function, which they regard as very useful.

It was repeatedly made clear that the conference wished on every point to assure the United States an equal vote, but on no point a determining power of veto not possessed by the other signatories.

On November 11, President Coolidge in his Armistice Day speech at Kansas City said of the situation:

I have advocated adherence to such a court by this nation on condition that the statute or treaty creating it be amended to meet our views. The Senate has adopted a resolution for that purpose. While the nations involved cannot yet be said to have made a final determination, and from most of them no answer has been received, many of them have indicated that they are unwilling to concur in the conditions adopted by the resolution of the Senate. While no final decision can be made by our government until final answers are received, the situation has been sufficiently developed so that I feel warranted in saying that I do not intend to ask the

Senate to modify its position. I do not believe the Senate would take favorable action on any such proposal, and unless the requirements of the Senate resolution are met by the other interested nations I can see no prospect of this country adhering to the court.

See LEAGUE OF NATIONS.

**WORLD CROPS.** See AGRICULTURE.

**WORLD FEDERATION OF EDUCATION ASSOCIATIONS.** See EDUCATION.

**WRANGELL LAND.** The expulsion of Alaskan Eskimo from this island was followed by its permanent occupation by Russia. Under its policy of exercising its control over all possible regions, the Soviet Government organized and carried out a plan of colonizing Wrangell Land. An elaborately equipped expedition surveyed the island, and established a colony drawn from the nomadic tribes of Siberia. For the 50 settlers there were built storehouses, etc., with headquarters for the Soviet officials. After their habit, the natives were to live in tents. The area of the island approximates 3000 acres. Although the vegetation is scant, there are found numerous arctic animals.

**WRECKS.** See SAFETY AT SEA.

**WRESTLING.** Professional wrestling attracted little interest during 1926, but in amateur and college circles the sport had a greater appeal. The most important professional match of the year was that between Joseph Stecher, claimant of the world's heavyweight title, and Ivan Poddubny of Russia. Stecher won in 1 hour, 3 minutes, 47 seconds.

The annual tournament of the Amateur Athletic Union was held at Corvallis, Ore., the winners of the final bouts being as follows: 112 pounds, L. Lupton; 118 pounds, C. Mitchell; 126 pounds, H. Boyvey; 135 pounds, A. Morrison; 147 pounds, R. Myers; 160 pounds, R. Hammond; 175 pounds, F. Bryan; heavyweight, C. Strack.

Cornell University won the United States intercollegiate championship with a score of 22 points, Lehigh University finishing second with 15 and Penn State College third with 14. The individual winners were: 115 pounds, Reed, Lehigh; 125 pounds, Best, Lehigh; 135 pounds, Chakin, Cornell; 145 pounds, Buttery, Princeton; 158 pounds, Miller, Yale; 175 pounds, Russell, Yale; heavyweight, Affeld, Cornell.

**WÜRTTEMBERG**, würt'tēm-bêrk. A constituent state of the German republic since November, 1918; formerly a kingdom of the German Empire. Area, 7534 square miles; population, according to the census of 1925, 2,595,114. Chief city, Stuttgart, with a population in 1925 of 337,199. The movement of population in 1923 was: Births, 52,356; deaths, 37,623; marriages, 20,751. The chief occupation is agriculture, about 64 per cent of the total area being under cultivation. The chief crops with their acreage and production in 1924 were: Wheat, 202,120 acres, 87,412 tons; rye, 68,895 acres, 26,731 tons; barley, 242,092 acres, 95,998 tons; oats, 258,624 acres, 102,469 tons; potatoes, 199,232 acres, 618,328 tons; hay, 1,289,985 acres, 2,556,246 tons; vines, 26,247 acres, 1,443,112 gallons of wine. The estimated revenue for the year ending Mar. 31, 1925, was 209,818,702 marks; expenditure, 219,582,627 marks. Supreme power is vested in the landtag, composed of 80 members elected for four years by universal suffrage. This body appoints the state ministry, whose president is styled state president. State president and minister of education in 1926, Wilhelm Bazille.

**WYOMING. POPULATION.** According to the Fourteenth Census, the population of the State on Jan. 1, 1920, was 194,402. Estimates made as of July 1, 1926, indicated a population of 236,000. The largest city was Casper, which increased from 11,447 in 1920 to 23,288 in 1925. The capital is Cheyenne.

**AGRICULTURE.** The following table gives the acreage, production, and value of the principal crops, in 1925 and 1926:

Crop	Year	Acreage	Prod. bu.	Value
Hay, tame	1926	682,000	1,326,000 *	\$11,271,000
	1925	668,000	1,288,000 *	11,419,000
Corn	1926	197,000	8,940,000	2,887,000
	1925	191,000	4,393,000	3,075,000
Wheat, winter	1926	42,000	756,000	809,000
	1925	35,000	560,000	694,000
Wheat, spring	1926	138,000	2,622,000	2,806,000
	1925	120,000	2,160,000	2,678,000
Oats	1926	134,000	4,690,000	2,110,000
	1925	134,000	4,690,000	2,157,000
Potatoes	1926	18,000	1,456,000	1,820,000
	1925	12,000	1,440,000	2,804,000

\* tons.

**MINERAL PRODUCTION.** Petroleum, from which is derived the greater part of the total annual value of the State's mineral production, yielded a decreased quantity in 1925, but attained a higher value for the year's product. Production of petroleum was 29,217,000 barrels, as against 39,498,000 in 1924; valued for 1925 at \$49,600,000 (estimated) and for 1924 at \$48,600,000. Of coal the State produced 6,887,000 short tons in 1925, and 6,757,468 in 1924. Coal produced in 1924 was valued at \$18,327,000; in 1923, at \$20,916,000. Natural gas production attained 46,036,000 M cubic feet in 1924 and 35,523,000 M cubic feet in 1923; in value, \$4,081,000 in 1924 and \$4,222,000 in 1923. From natural gas were made 32,700,000 gallons of gasoline in 1925 as against 29,272,000 in 1924; valued at \$3,115,000 (estimated) for 1925 and \$2,979,000 for 1924. The minor products included stone, sand and gravel, gypsum, and clay products. The total value of the State's mineral product in 1924 was \$75,494,166; in 1923, \$77,664,547.

**FINANCE.** As summarized by the United States Department of Commerce, payments for maintenance and operation of the general departments of the State in the fiscal year ending Sept. 30, 1925, were \$5,011,396. Their rate per capita was \$22.72, as against \$16.47 in 1924 and \$11.59 in 1917. Their total included \$2,060,835 for education, apportioned among minor State divisions. Payments amounting to \$79,308 for interest on debt and \$3,000,858 for permanent improvements, added to the payments for maintenance and operation of State departments, made the year's total of State payments \$8,191,662. For highways there was expended by the state the sum of \$3,402,028, of which \$852,177 was for the maintenance and \$2,549,851 for the construction.

Revenue receipts of the State were \$8,559,101, or \$38.80 per capita. They exceeded by \$3,368,397 the total payments except those for permanent improvements, and, furthermore, exceeded by \$367,539 the total with these included. Revenue not otherwise used was employed for the reduction of bonded debt or carried in cash balances. Property and special taxes formed 17 per cent of the revenue in 1925, as against 25.5 in 1924 and 48.4 in 1917. Their per capita rate was \$6.60 in 1925, as against \$8.38 in 1924

and \$5.51 in 1917. Earnings of the departments and compensation for officials' services furnished 3.5 per cent of the 1925 revenue; business and non-business licenses, 12.5 per cent. License receipts included those from taxes on incorporated companies, on sales of gasoline and on motor vehicles.

The net indebtedness of the State on Sept. 30, 1925, was \$2,403,160, or \$10.89 per capita, as against \$13.46 in 1924 and 56 cents in 1917. The assessed valuation of property subject to State tax was \$460,539,192. The State tax levy was \$1,650,559, or \$7.51 per capita.

**TRANSPORTATION.** The total mileage of railroad line in operation at the end of 1925 was 1992. There was constructed in 1926 new first track to the length of 13 miles.

**EDUCATION.** A plan of rural school reorganization reported by Katharine A. Morton, State superintendent of public instruction, provided important changes in the methods of instruction. It lengthened the class periods, while at the same time reducing the long study periods. While increasing the size of classes, it sought to individualize instruction. Fourteen class periods daily were provided for the school of the eight-grade, one-room type. There was continued growth of the University of Wyoming, and particularly of the university's summer school at Laramie, situated at an altitude of 7000 feet. For the school year 1925-1926, the school population was given as 63,074. There were enrolled in the public schools 50,138 pupils, of whom 9664 were enrolled in high schools. The year's total of expenditures for public school education was \$8,397,353.

**CHARITIES AND CORRECTIONS.** The girls' industrial institute, established by law of 1925 for the custody and discipline of incorrigible girls, was opened at Sheridan, Sept. 15, 1925, with 10 girl inmates, and had 27 on Sept. 30, 1926. Other institutions under the control of the State board of charities and reform, at the end of 1926, were: Wyoming State Hospital, Evanston, (insane) 394 inmates; Wyoming State penitentiary, Rawlins, 256 inmates; Wyoming soldiers' and sailors' home, Buffalo, 30 inmates; Wyoming general hospital, Rock Springs, 1187 patients treated in the year ending September 30; Wyoming state training school, Lander, 187; Wyoming industrial institute, Worland, 148 delinquent boys; Home for Dependent Children, Cheyenne, 41 children. Construction was begun in the year on the first building of the projected Wyoming tuberculosis sanatorium, at Basin.

**POLITICAL AND OTHER EVENTS.** At the election, November 2, Frank E. Emerson, Republican candidate, was elected Governor for the four-year term beginning January, 1927. He defeated Governor Nellie Tayloe Ross, Democrat, running for reelection. C. E. Winter, the State's member (Republican) of the House of Representatives was reelected. Other State officers elected in November were Secretary of State, A. M. Clark; Treasurer, W. H. Edelman. Auditor Vincent Carter and Superintendent of Public Instruction Katharine A. Morton were reelected. The appointment of W. O. Wilson as Attorney-General for the ensuing term was announced.

The Wyoming wool growers' association passed resolution December 10, favoring legislative action against wild horses and declaring these a detriment to the sheep ranges. The wild horses in the State were declared to have become more



abundant because of the decline in the market price for range horses. Ranchmen had largely ceased to ship them, and had likewise given up branding the herds. The uncertain status of the horses in the eye of the law protecting animal property deterred ranchers and hands from shooting wandering animals.

**OFFICERS.** Governor, Mrs. Nellie T. Ross; Secretary of State, F. E. Lucas; Treasurer, John Snyder; Auditor, Vincent Carter; Superintendent of Public Instruction, Katharine A. Morton; Attorney-General, D. E. Howell.

**JUDICIARY.** Supreme Court: Chief Justice, C. N. Potter; Associate Justices, Fred H. Blume and Ralph Kimball.

**WYOMING, UNIVERSITY OF.** A State institution of higher education at Laramie; founded in 1886. It consists of a college of liberal arts, a college of agriculture, a college of engineering, a college of education, and a law school. The enrollment for the autumn of 1926 was 1023. The registration for the two summer school sessions of six weeks each and the supplementary six weeks' session at Sheridan totaled 1383. The teaching faculty numbered 95. The productive funds of the university for the year 1925-26 amounted to \$1,796,486, and the income for the same period was \$1,150,835. The library contained 62,281 volumes. A new engineering building, erected at a cost of \$160,000, was reaching completion in 1926. President, Arthur Griswold Crane, Ph.D.

**X-RAYS.** See GALL STONE DISEASE; PHYSICS.

**YACHTING.** The only international yacht competition of importance during 1926 was the international six-meter races held at Oslo, Norway, for the Norwegian Gold Cup. Fifteen yachts, representing five nations, took part, the winner being *Lanai*, owned and sailed by H. F. Whiton of Oyster Bay, N. Y.

A feature of the season in the United States was the return to competition of *Resolute* and *Vanitie*, former defenders of the America's Cup and modernized into Marconi schooners. *Vanitie*, owned by H. P. Whitney and handled by Charles Francis Adams, made an excellent showing, capping its string of victories by winning the race for the King's Cup during the New York Yacht Club's cruise. The other trophies in this annual yachting fixture were distributed as follows: Astor Cup, schooners, *Pleione*, owned by J. V. Santry; Astor Cup, sloops, *Carolina*, Commodore George Nichols; Commodore's Cup, schooners, *Resolute*, E. Walter Clark; Commodore's Cup, sloops, *Shawara*, Hoyt and Hoffman.

The winners of the leading Long Island Sound championships were as follows: New York Yacht Club 40-foot class, *Typhoon*, owned by C. Smithers; 30-foot class, *Narcissus*, F. S. Page; twenty-rater, *Bob-Kat*, Robert B. Meyer; Sound schooner, *Rival*, S. A. Lynch, Jr.; six-meter, *Hawk*, A. E. Luders, Jr.; Victory, *Black Jack*, T. S. Clark; Sound interclub, *Wee Betty*, G. La Branche; star class, *Irew*, E. A. Ratsey; handicap, first division, *Young Miss*, L. Schwarcz; handicap, second division, *Acadian*, F. E. Raymond. The New London-to-Bermuda yacht race, 660 miles, was won by *Malabar VII*, owned by John G. Alden, in 116 hours, 4 minutes, 37 seconds.

Motor boating in 1926 proved especially popular, and more race events were held than ever before. *Greenwich Folly*, owned by George H. Townsend, captured the Gold Cup, fifteen boats

competing. The winner set a record for the best elapsed time, for the 90 miles, of three heats, 1 hour, 51 minutes, 40 seconds. Richard F. Hoyt's *Imp*, however, made the fastest time for a lap, averaging 53.58 statute miles an hour for the three-mile circuit. The Dodge Trophy went to *Roudy*, owned by Carl Fisher. *Miss America V.* won the Harmsworth Trophy.

**YALE UNIVERSITY.** A non-sectarian institution of higher education at New Haven, Conn.; founded in 1701. The university consists of ten schools, as follows: Undergraduate: Yale College (1701), Sheffield Scientific School (1847); graduate and professional: graduate school (1846), school of medicine (1810), divinity school (1882) school of law (1824), school of the fine arts (1866), school of music (1894), school of forestry (1900), school of nursing (1923). Since 1920 the undergraduate freshman year has been under the jurisdiction of a separate dean and faculty. The enrollment for the autumn of 1926 was 5583, including 623 who were not candidates for degrees. Of those working for degrees 600 were in the graduate school; 1548 in Yale College; 712 in the Sheffield Scientific School; 876 in the freshman year; 207 in the school of medicine; 217 in the divinity school; 418 in the school of law; 295 in the school of the fine arts; 96 in the school of music; 38 in the school of forestry; and 39 in the school of nursing. The registration for the summer session of the school of law was 146. The faculty numbered 1039, consisting of 194 of professorial rank, 52 associate professors, 238 assistant professors, 219 instructors, and 436 assistants. The library, including the departmental libraries, contained 1,775,077 volumes and pamphlets. The total endowment was \$45,603,713 and the income for the year \$5,244,051.

A gift from Edward S. Harkness (B. A., Yale, 1897), in 1924, provided for the building of a university theatre and the establishment of a department of the drama in the school of fine arts. Prof. George Pierce Baker was appointed to the chair of the history and technique of the drama, and made director of the theatre. The enrollment in this department in 1925 was limited to 75 students. The theatre, which was formally opened Dec. 10, 1926, with a series of performances of a play by one of the students, is Gothic in design, and has three distinct features—a complete theatre, a school of the drama, and accommodations for the Yale Dramatic Association. In addition to a theatre in the usual sense, there are lecture rooms, workshops where scenery and costumes can be made, and lighting equipment prepared and kept; rehearsal rooms, so that more than one play, or different acts of the same play, may be in rehearsal at the same time; and a green room for a social centre for the actors and the working force of the theatre.

In 1926 the law school raised its entrance requirements so that men from another law school could not be admitted unless they had an average of "B" in their work in that school, and college graduates who had not previously studied law could not enter unless they maybe expected to attain an average of "C" in their work. The law school also introduced a system of honors courses under which men of high standing are permitted to do individual research work, or to carry on intensive study in small groups in the final year of their course.

Through the gift of \$1,000,000 from two anony-



mous donors, construction of an art museum was begun. The trustees of the estate of the late John W. Sterling provided funds for the erection of the Sterling Memorial Library, to contain eventually 5,000,000 volumes, with accommodations for special collections and seminars. Through a gift from the late William L. Harkness and members of his family, a new recitation hall, the William L. Harkness Educational Building, was under construction. This building was planned to contain 33 offices for members of the faculty, as well as class rooms. On the site of Osborn Hall the University was erecting Charles W. Bingham Hall, built through a gift of \$1,000,000 from the sons and daughters of Charles W. Bingham, '68, of Cleveland, Ohio, to provide dormitory accommodations for 116 students. Funds for the Yale memorial to those who lost their lives in the World War were provided by the graduates through the efforts of a committee of the alumni advisory board, and it was planned to build this memorial in the form of a colonnade, with an altar of liberty in the centre. President, James Rowland Angell, Ph.D., Litt.D., LL.D.

**YAP.** A Japanese island of the Caroline group in the Pacific, centre of administration for the western Carolines; an important wireless and cable station. Population, 8339.

**YELLOW FEVER.** This disease in 1926 was quiescent in the entire North American continent, but the old fastnesses of infection in Mexico are but a few days' travel from the United States border, and the *Edes Aegypti* mosquito, the vector of the living cause of the disease, abounds along the Rio Grande. For four years, the United States had been carrying out measures for the extermination of the mosquito, and had met with much success through the co-operation of the local and State health authorities. Three mosquito-borne diseases occurred in this area in the past—yellow fever, malaria and dengue. (See an article by Dr. Tappan in the *Journal of the American Medical Association* for September 25.)

The late Dr. Juan Guiteras (q.v.) bequeathed to Prof. W. H. Hoffmann of the University of Havana all of the documents accumulated by him in his quarter-century study of yellow fever, with histories of 107 personal cases treated and a summary of his views on the disease. It is a form of hæmolytic sepsis caused by the *Leptospira icteroides*, the toxin of which causes acute degenerative changes in the heart, liver, kidneys, blood vessels, etc., and often leads rapidly to death. Degeneration of the blood vessels is responsible in part for the severe hemorrhages including the so-called "black vomit," and the jaundice is the consequence of the hæmolysis and absorption of the liberated blood-coloring matter. The presence of the toxin in the blood causes the formation of anti-bodies which, as in the case of children, are often able to neutralize it and make recovery possible. Diagnosis of mild cases is often so difficult that it can be made only through the demonstration of the *leptospira*. The only direct treatment is the Noguchi serum. (*Deutsche Medizinische Wochenschrift*, October 8.)

Dr. Henry Hanson gives a personal experience with the disease in the *Journal of the American Medical Association* for February 20. It occurred in Peru in 1919, when he was a member of the Peruvian health department. He was probably accidentally infected in the course of making a

blood test, the incubation period being 4 or 5 days. He resumed work on the 12th day, but at once relapsed, not from the disease itself but from the weakened state of the heart muscle. On this account he insists on prolonged convalescence in bed for all patients, with absolute rest and fasting during the febrile period, allowing only vichy, as much as desired. This management will avert the supervision of vomiting. Visitors are never admitted.

**YEMEN, IMAMATE OF.** See ARABIA.

**YI, (SYEK), PRINCE.** Former Emperor of Korea, died in his palace at Seoul (Keijo), Korea, April 25. He was born in the palace of Seoul in 1874, and succeeded to the throne on the abdication of his father, Yi Hyeung, in July, 1907. He was the thirty-fifth and last sovereign of his dynasty, although he was a ruler in name only. The Japanese influence had been gradually growing stronger, and although he was credited with considerable ability, he was never able to use it. He was generally known as Yi Wang (Wang meaning "King" or "ruler"), but he lost his throne in 1910 when the Japanese Government declared the annexation of Korea as a consequence of the assassination of Viscount Ito, the first viceroy, by a Korean fanatic. The Japanese referred to the head of the old royal house by the title "Prince Yi." Korea had actually been under Japanese protection since the Russo-Japanese War (1905), as indicated by a clause in the Treaty of Portsmouth. His son, Prince Yi Pang, entered the Japanese army as a commissioned officer, and married the Japanese Princess Masako, daughter of Prince Nashimoto, taking up his residence in Tokyo.

**YORKTOWN, BATTLE OF.** See CELEBRATIONS.

**YOSHIHITO, HARUNOMIYA.** The 123rd Emperor of Japan, died at the Imperial Palace at Hayama, Japan, December 25. He was the son of the Emperor Mutsuhito (known to history as the Emperor Meiji), and the Princess Yanagawara, and was born Aug. 31, 1879. The Emperor Meiji's first wife was childless, and, for the sake of succession, the Emperor availed himself of the Japanese law which permitted him to call to the palace, as concubines, twelve women of royal or noble birth. The Princess Yanagawara was the first of these, and Prince Yoshihito was the third son she bore the Emperor. Nominated heir apparent in 1889, Yoshihito was taken from his mother, and was given a palace apart, with his own retinue of servants and private tutors. At the age of sixteen he became a colonel, and almost always appeared in a military uniform of foreign design. He was the only ruler of Japan in modern times to go beyond the confines of Japan proper, having made one journey to Korea. In 1900 Prince Yoshihito married Princess Sada.

The prince was always physically weak, and although he at first seemed to take his duties and responsibilities as crown prince very seriously and to attack them with vigorous interest, reports seeped through to the common people of his illness. Eventually it became common knowledge that the Emperor was completely incapacitated mentally and physically, and he could no longer receive foreign ministers in person. The first son of Prince Yoshihito and the Princess Sada was Prince Michi-no-Miya, born Apr. 29, 1901. He was proclaimed heir apparent in 1912 (the year his father ascended the throne); crown prince in 1916, and regent of Japan after his

return from his foreign tour in 1921. This tour involved the breaking of an age-old Japanese tradition, but Yoshihito had adopted some foreign ideas from his father, and his own studies of world affairs had shown him the advantages of a first-hand knowledge of other lands. The Emperor's health had come to such a low pass in 1921, that he resigned the Government of the country to his son, who was proclaimed Prince Regent in 1921. From that time until his death the Emperor lived in seclusion, almost continuously at the Hayama Palace. His illness became critical on December 9.

In foreign affairs Yoshihito was of a broad and tolerant mind and maintained a policy of dignified friendliness with all foreign powers. Considering his personal handicaps, his accomplishments were many and he displayed a rare discrimination in his studies and interests. He was, it is said, a good French scholar, and could use German to some extent. His greatest ability lay in his skill in verse-making. The greater part of his reign was, however, a period of enforced inactivity.

**YOUNG, RIDA JOHNSON** (Mrs. James Young). American playwright, died May 8 at Southfield, Conn. She was born at Baltimore, Md. in 1876, and attended Wilson College, Chambersburg, Pa. She was the author of several novels and of many plays. Of the former are *Virginal* and *The Girl Who Came Out of the Night*. Her more important plays include: *Brown of Harvard*; *Glorious Betsy*; *Maytime*; *Naughty Marietta*; *The Lottery Man*; *Her Soldier Boy*; *Captain Kidd, Jr.*; *The Boys of Company B*; and *Little Old New York*.

**YOUNG MEN'S CHRISTIAN ASSOCIATION.** An educational, social, physical and spiritual movement for men and boys found in every civilized nation of the world. This organization had its birth in London in 1844, and spread to the United States in 1851. The records, as of June 1, 1926, showed 1,551,148 members throughout the world, 63 per cent of whom were in North America; 7362 employed officers, 73 per cent, in North America; and \$220,210,910 in Association property, 87 per cent in North America. In 1926 the movement in North America involved 1711 local organizations recognized by the convention, with 93,061 directors and voluntary leaders, 5263 paid officers, and a paid-up membership of 948,520 members, 244,498 of whom were boys 12-18 years of age. Five per cent of this body of workers and members were found in the Canadian associations and the remainder in the associations of the United States. Statistics of June 1, 1926, showed \$189,420,000 of net property and funds paid in. Of this amount \$19,970,000 was in endowment funds. The operating expenditures for 1926 were \$54,160,400, more than \$1,000,000 per week. These expenditures were provided for by the members, plus contributions from friends amounting to \$14,759,500.

In its activities, the Young Men's Christian Association movement involves several hundred distinct features or lines of service. In its physical training and service it enrolled in the year ending Apr. 30, 1926, 473,109 men and boys. In educational features, including lectures, discussions, evening schools, and regular college courses, both day and evening classes, about 300,000 men and boys were served. The number in regular courses of instruction covering from two to four years in length and of college grade was

85,231, a number equal to all of the male students in all of the colleges and universities of the United States having an enrollment of less than 3200 each. Among its activities for the development of the spiritual life are many scores of kinds of group organizations and clubs, in addition to the regular Sunday and devotional services and the regular courses in Bible study. During the year 219,885 students were enrolled in the Bible courses, and there was a total attendance of 6,500,000 at the definitely religious meetings of the association.

A few years after the work began in North America, it expanded its helpfulness to foreign lands, where there were, in 1926, 262 local and national secretaries at work in 32 different countries and supported with a budget of \$2,141,000 by the associations of North America. This amount was included in the annual expenditures mentioned above.

For the professional training of secretaries and paid officers there are three Association colleges in the United States: Springfield, Mass., with 473 students; Chicago, with 266; Nashville, Tenn., with 80. To facilitate the training and efficiency of workers who cannot attend these colleges, there are nine summer schools lasting from two to four weeks each. In 1926 these summer schools had an enrollment of 1335. In addition to hundreds of various kinds of bulletins issued by the State and local organizations, there are the following international periodicals for the North American associations: *Association Men*, monthly; *The Intercollegian*, monthly; *The Student World*, quarterly; *Physical Training*, monthly; *The Association Forum*, quarterly.

By the formation of the national councils of the United States and Canada, Jan. 1, 1925, the international committee became only the holding organization for the two national councils and turned over to them the active supervision and promotion of the local and State activities. It also continued a very close relationship to the conduct of the foreign work which was supported by the Association in both national councils. The headquarters and officers of these three organizations were as follows: The International Committee, 347 Madison Avenue, New York; James M. Speers, chairman; Dr. John R. Mott, general secretary. The National Council of the United States, 347 Madison Avenue, New York; D. W. Teachout, chairman, Dr. John R. Mott, general secretary. The National Council of Canada, 86 East Adelaide St., Toronto, Ont.; R. F. McWilliams, chairman, H. Balantyne, general secretary.

**YOUNG WOMEN'S CHRISTIAN ASSOCIATION.** An organization and movement aiming to advance the physical, social, intellectual and spiritual interests of young women, to promote growth in Christian character and service, and to become a social force for the extension of the Kingdom of God. It holds a biennial convention, the 1926 session having taken place in Milwaukee, Wis. The executive committee of the organization is known as the National Board of the Young Women's Christian Associations, and to it is entrusted the work of the organization during the interim of conventions. This board interests itself in the city, town, and county associations throughout the United States and its territories. Through its foreign division it works with other members of the world's committee of the Young Women's Chris-

tian Associations in carrying on association work for women and girls in the Baltic States, the Near East, the Orient, South America, and the Philippine Islands. In the oriental countries work is undertaken by the association only upon invitation of the mission boards already working in the country. In 1926 work was carried on under this department in 12 countries, with a staff of 107 secretaries.

The Young Women's Christian Associations in the United States in 1925 embraced from 900 to 1000 centres and branches, in 245 cities. There were 39 rural associations, doing work in 105 counties, 144 associations in towns, and 682 student associations in schools and colleges. These local associations had a membership of over 605,000 and real property valued at over \$50,000,000. The gross budget of the local associations for 1925 was estimated at approximately \$24,000,000, about 75 per cent of which was met by earnings from cafeterias, boarding homes, etc. The national board budget for the year 1926 was \$2,185,675, of which \$384,777 was for promoting work in China, Japan, India, South America, Mexico, Philippines, Russia, the Near East, and the Baltic States. It also has endowments yielding approximately \$130,000 annually, and income producing and business features which in 1925 represented a gross income of about \$960,000. Contributions in 1925 totaled \$1,184,493. The officers of the national board for 1926 were: Mrs. Robert E. Speer, president; Mrs. John French, chairman of the executive committee; Mrs. John H. Finley and Mrs. John D. Rockefeller, Jr., vice-presidents; Miss Katherine Lambert, secretary; Mrs. Samuel Murtland, treasurer; Mrs. George W. Davison, assistant treasurer; Miss Mabel Cratty, general secretary. The national board operates through three regional offices and its headquarters at 600 Lexington Avenue, New York City. The regional offices are at Chicago, Denver, and San Francisco. The Young Women's Christian Association national school for professional study is at 135 East 52d St., New York.

**YUKON**, yŏŏ'kŏn. A territory of the Dominion of Canada; bounded on the west by Alaska and stretching from British Columbia to the Arctic Ocean; constituted a separate political unit in 1898. Area, 207,076 square miles; population, according to the census of 1921, 4157. The chief towns are Dawson, the capital, and White Horse. Mining is the principal occupation, and the chief minerals are gold, copper, silver, lead, and coal. The output of gold in the year ended Mar. 31, 1925, was \$625,460. The revenue for 1924-25 was \$222,381, and the expenditure \$239,374. At the head of the government are a gold commissioner and a territorial council of three elected members. Acting gold commissioner in 1926, Percy Reid.

**ZANGWILL**, ISRAEL. Jewish author and dramatist, died in London, England, August 1. He was born in London, Feb. 14, 1864, the son of Moses Zangwill, a Russian refugee. He was practically self-educated, although as a boy he attended the Jews' Free School in the London East End, and later contrived to take a B.A. degree with triple honors, as an out-student of London University. He taught for a time at the Jews' Free School, and while so engaged he wrote (1888) with Louis Cowen, a farcical political romance called *The Premier and the Painter*.

He founded, in opposition to *Punch*, a maga-

zine called *Ariel* which did not survive long, and he turned his attention to satires and burlesques. One of his first works was *The Big Bow Mystery* (1892), a burlesque of the popular detective story. His novel, *Children of the Ghetto* (1892), marked his departure from purely humorous work. The success of this book led him on to others, but though greater success attended his novels, his plays predominated in the following years. His first dramatic work, *Six Persons*, (1892) was followed in 1899 by a dramatization of *Children of the Ghetto*, and two light plays, *Mercy Mary Ann* (1903) and *Jinny the Carrier* (1905). Described as "a moving plea for race fusion," *The Melting Pot* appeared in 1908, and *The War God*, produced in 1911, was a call for international amity and embodied a prophecy of the World War. Another prophetic drama written by Zangwill, *The Next Religion*, was banned in 1912 by the British censor. Zangwill devoted almost all his effort to the writing of plays, and there appeared in rapid succession *Plaster Saints* (1914), *Too Much Money* (1918), *The Cockpit* (1921), and *The Forcing House* (1922). His last dramatic work, *We Moderns* (1923), was not well received in England or in America.

In addition to fiction, Zangwill wrote studies of the work and lives of Heine, Lassalle, Spinoza and other thinkers. These studies, collected, were called *Dreamers of the Ghetto* (1898). In addition, he wrote poetry, and in 1923 translated Ibn Gabirol's poems from the Hebrew.

Zangwill was well known on the lecture platform in Great Britain, Ireland, Palestine, Holland and the United States. He was President of the International Jewish Territorial Organization, and although he had abandoned the Zionist movement in 1905 on the ground that it was impractical while Palestine was still in the hands of the Turk, he returned to the cause it represented in 1917, when it appeared that Palestine would soon be freed for the Jews. In October, 1923, however, he said his final word on the subject of "political Zionism" from the platform of Carnegie Hall in New York City. In spite of the fact that Zangwill's first successes were due to American appreciation, he was one of the most decided critics of the United States and especially of American Jewry. He was at one time president of the Playgoers' Club of London, and he remained an honorary member till the time of his death. He was also for some time president of the Jewish Historical Society of England, president of the Jewish Drama League, and a member of the Dramatists' Club.

**ZANZIBAR**. A British protectorate, consisting of the island of the same name off the coast of Tanganyika in east Africa, together with the island of Pemba and several other small islands. Area, Zanzibar, 640 square miles; Pemba, 380 square miles; population, according to the census of 1924, 216,790 (Zanzibar, 129,140; Pemba, 87,650). The total number of children attending schools in 1924 was 3405. The prevailing religion is Mohammedanism. Zanzibar, with a population in 1924 of 38,700, is one of the chief ports of Africa. The chief industry is the production of cloves, the two islands of Zanzibar and Pemba yielding the greater part of the world's supply. The exports in 1924 were 169,309 cwt., and clove-stems, 24,531 cwt. The coconut industry ranks next in importance to cloves; the export of copra amounted to 308,873 cwt. in 1924. The value of imports in 1924 was £1,976,230; of exports,

£2,031,770; revenue in 1925, £457,000; expenditures in 1925, £605,346; shipping entered in 1924, 930,628 gross tons. The nominal head of the government is the Sultan, but the actual administration is in the hands of a British resident, who is aided by an advisory council under the presidency of the Sultan. The Sultan's decrees are not binding unless countersigned by the British resident. Sultan in 1926, Seyyid Khalifa bin Harub; British resident, A. C. Hollis.

**ZINC.** The recoverable zinc contained in ore mined in the United States in 1926, according to the U. S. Bureau of Mines, was about 773,000 tons, as compared with 710,847 tons in 1925, a gain of 9 per cent. The output of the Eastern States was about 103,000 tons (78 per cent from New Jersey), of the Central States about 465,000 tons, and of the Western States about 205,000 tons. All important zinc-producing States in the West reported increased output as compared with 1925. The greatest gain was made in Utah, which showed an increase of 75 per cent. Idaho's gain was 68 per cent, and the Joplin district made a 4 per cent increase over its large output of 1925. The output of primary metallic zinc from domestic ores in 1926 was about 605,000 tons and that from foreign ores was about 7000 tons, a total of 612,000 tons, as compared with 555,631 tons from domestic ores and 17,315 tons from foreign ores, a total of 572,946 tons, in 1925. In addition to the output of primary zinc there was an output of about 42,000 tons of re-distilled secondary zinc, as compared with 39,181 tons in 1925, making a total supply of distilled and electrolytic zinc in 1926 of about 654,000 tons, composed of 190,000 tons of high grade and intermediate, 93,000 tons of select and brass special, and 371,000 tons of prime western zinc. Of the total output of primary zinc in 1926 about 131,000 tons was made in Oklahoma, 110,000 tons in Illinois, 102,000 tons in Pennsylvania, and 33,000 tons in Arkansas. The remainder was made in Indiana, Kansas, Montana, Texas, and West Virginia.

The total number of retorts at zinc smelters that operated during all or a part of the year was about 122,000. Of that number, about 89,000 were reported in operation at the end of November, and about 90,000 were expected to be in operation at the end of the year.

Figures published by the American Metal Market give an average quoted price of 7.35 cents a pound for prime western zinc at St. Louis in 1926, as compared with an average selling price for all grades in 1925 of 7.6 cents. At the opening of the year the quotation was 8.75 cents a pound and a quotation of 7.05 cents prevailed through most of December.

The production of the United States was practically one-half that of the world, which, at the end of the year, was estimated at 1,370,000 tons. Canada had increased its production from an average of 3200 tons per month in 1925 to over 5000 tons per month in 1926, while Belgium, which was the largest producer in Europe, was supplying over 18,000 tons per month, as against 16,000 tons in the previous year. Germany and Poland both increased their output, while the Australian production remained about the same as in the previous year. It was the largest source of zinc ore outside the United States, part of the ore being smelted in that continent and the remainder being shipped to Europe. An interest-

ing development was the taking over of mines and furnaces in Silesia by the Anaconda Copper Mining Company. England produced no zinc on account of the coal strike, but Italy and Mexico showed increased supplies.

**ZIONISM.** See JEWS.

**ZONING.** See CITY PLANNING.

**ZOOLOGY.** Zoölogical research in 1926 continued along both descriptive and experimental lines, with a preponderance of the latter. This is illustrated by the fact that of the papers read at the meeting of the American Society of Zoologists at Philadelphia, December 27-29, two-thirds were under the two headings Comparative Physiology, and Genetics.

In December appeared the first number of *Biological Abstracts*, a monthly publication giving abstracts of the world's literature in theoretical and applied biology.

**PROTOPLASM.** Although long ago identified as "the physical basis of life" and subjected to long-continued study, protoplasm remains more or less of a mystery so far as its *structure* is concerned. This was the subject of a symposium held at New Haven at the 1925-26 meeting of the American Society of Zoölogists. The papers read at that time appeared in *American Naturalist*, 60, p. 105 ff. Wilson stated that the alveolar formations found in protoplasm arise secondarily through the appearance and close crowding of dispersed formed bodies, and are of secondary importance in explaining protoplasmic structure. His general conclusion was that no universal formula can be given for this structure. Chambers, as a result of micro-dissection experiments, stated that there is considerable difference between different parts of the cell; in an amœba, for example, the outer portion is more solid and reacts to chemicals in a different fashion from the inner. Heilbrunn thought that experiments indicate that the interior of protoplasm is viscous, possibly composed of protein granules each with a surface film of lipid substance.

**EVOLUTION.** As was stated earlier (see YEAR BOOK for 1925) Bateson's confession of ignorance concerning the *methods* of the origin of species through evolution was interpreted by the anti-evolutionists as an abandonment of the evolution theory. Other workers, however, disagree with Bateson on this point, though admitting that much remains to be explained. Osborn (*Science*, 64, p. 337), stated that we have at least determined the *modes* of origin of species, though the *causes* are still obscure. Species, he said, arise either through mutation or through speciation, the former being of rare occurrence. Mutation means the sudden origin in one generation of a new species, due to a considerable germinal change. Speciation means a gradual change in species characters, leading first to sub-species and later to true species, the changes all being connected by inter-gradations. Changes of this sort might be interpreted as due to environment, and thus not permanent under other conditions. The deer mouse, *Peromyscus*, exhibits a distinct sub-species for each distinct climatic region on the western coast of America. This looks like climatic variation, but it has been shown that if removed to other localities the characters persist. Osborn interprets this to mean that varying potentialities exist in animals, and that these may be released in one or another direction by environmental conditions. When thus released,

the characters persist and are a step toward the production of a new species.

MUTATIONS. Mertens (*Zoöl. Anz.* 68, p. 323), concluded with regard to color mutations in amphibia and reptiles that: 1, they occur here as often as in other animals or plants; 2, regressive mutations, due to degeneration of pigment cells, occur more frequently than do progressive ones; 3, mutants are often dominant over original forms; 4, mutations are of especial importance for racial change if they occur in a race of limited distribution, as, e.g., on an island; 5, local forms or geographical races arise by mutations as well as by continuous variation.

SEXUAL SELECTION. Sexual selection, as a factor in the evolution of sex dimorphism in coloration of animals, has been of recent years generally discredited, the principal objection being that this dimorphism often occurs under conditions where, through inability of the animal to see the colors, they could have had no influence on its choice of a mate. Cinat-Thomson (*Biol. Zent.*, 46, p. 543) decided that in the case of the Australian grass parrakeet, *Melanopsittacus undulatus*, the female exerted a definite choice of a male; in some cases this choice was influenced by his coloration. Certain males were always chosen by different females when opportunity was given for comparison with other males, indicating a greater individual attractiveness shown by the one chosen. If a male that had not previously been a favorite was changed in appearance by artificially painting so as to intensify his normal colors, he would be a first choice; indicating selection on the basis of coloration. If a male were artificially colored with female tints, or a female with male tints, each would be courted by the opposite sex. As a rule, the female was not affected by the voices of different males, though she distinguished between them and the voices of females. When a female was separated by two opaque partitions on the one hand from a courting male and on the other from one who was carrying on his normal "conversation," she would go toward the former, indicating that the voice is employed in courtship. The general conclusion of the writer was that the male exhibiting the strongest secondary sexual characters would be the one first chosen by the female.

HEREDITY. The Sedgwick memorial lecture for 1926 was given at Woods Hole by Morgan with the title "Genetics and Physiology of Development." (*Am. Nat.*, 60, p. 489.) Referring to criticisms of the "gene" theory on the ground that locating all hereditary determiners in the chromosomes ignores the cytoplasm of the sex cell which must have some function in heredity, Morgan declared that the plastids of the plant cell are the only good examples of cytoplasmic inheritance. Reciprocal crosses may be made between two species and will give identical hybrids. If the cytoplasm is important in heredity the hybrid in each case should resemble the female parent and thus be different in reciprocal crosses. Morgan thought that genetically the cytoplasm may be ignored. One contribution of genetics to the solution of the physiology of development has been the demonstration of the importance of using homozygous material, another was in furnishing the explanation of hybrid vigor. Genes are probably not enzymes but protein bodies able to produce enzymes which are

thrown into the cytoplasm and take part there in catalytic reactions. Morgan declared that the experimental study of fundamental problems of physiology had almost come to a standstill when two new methods appeared—one the application of physico-chemical technique to the study of living organism, the other the application of genetics to these problems.

It is generally believed that the chromosomes of the sex cell are the carriers of the determiners of heredity and the "X" chromosome is one about which a good deal of research has centred. Associated with the "X" chromosome is the "Y," with which it has not been in general possible to associate any particular determiner or "gene." Although Castle (see YEAR BOOK for 1921) thought that it carries the determiner for a color marking in a South American fish, *Lebistes*, it is generally regarded as "empty." Stern, (*Biol. Zent.*, 46, pp. 349 and 505) basing his conclusions on phenomena resulting from the non-disjunction of the "X" and the "Y" in spermatogenesis in the fruit fly, thought that the "Y" in this case contains an allelomorph for the gene which determines "bobbed" or short-bristle condition.

ORGANIC INDIVIDUALITY. Issajew (*Russ. Archiv.*, 108, p. 1), bases a discussion of the problem of individuality on the results of experiments on two species of hydra, *H. oligactis* (*fusca*) and *H. vulgaris*. Homoplastic (where the animals are all of the same species) and heteroplastic (where they are of different species) grafting and fusions were made, the former being much the more satisfactory. If two animals are split lengthwise, flattened out and held together for a time, they will fuse, and a form with double the regular number of tentacles results. This gradually rounds up into the hydra form, and later, through fusion, the tentacle number is reduced to the normal. The individualities of two animals are now merged into that of one. What has become of the two? Hydrazes were chopped into small pieces, and the pieces were put together in a heap. The ectoderm and entoderm cells gradually separated from one another and by cytotropism collected into homogeneous layers, and several new hydrazes, forming a regular colony, appeared from the mass. What has become of the individualities of the original hydrazes? The author argues finally that these results indicate that in hydra where there are reserve "I cells" scattered all through the body, each of these cells being totipotent and able to give rise to a new animal, there is no true individuality. He makes two classes: 1, indivisible individual beings; and 2, divisible "dividual" beings. To this second class belong plants, sponges, hydroids, some worms, ascidians, and the early stages of the developing eggs of many metazoa. This dividuality prevents any separation of soma and germ plasma, any differentiation of the sex cells, and results in the lack of sex dimorphism during the vegetative phase of the life cycle. With this condition, organic individuality is impossible. Such an individuality arises hand in hand with the appearance of a definite germ path, early separation of the sex cells, and the development of sex dimorphism. The dividual is potentially immortal, natural death arising with the separation of soma from germ cells. Issajew comments on the bearing of this work on the rival doctrines of vitalism and mechanism. In its older sense,

with its entelechies, etc., he considers vitalism to be outgrown, but it still is valid as a working hypothesis used in attempting to explain the new problems which follow upon the extension of knowledge. Similarly, mechanism has its place as an hypothesis. What is necessary in future is to secure a body of facts that will give a basis for speculation much more definite than any we now have.

**DEATH.** Lepeschkin (*Biol. Zent.*, 46, p. 480), discussed the physico-chemical origin of death. Life, he said, is possible only in colloidal material, where the diffusion processes are comparatively slow. Anything which causes this colloidal material to be irreversibly destroyed not only destroys all life but all possibility of life. If there occurs a coagulation of the dispersal phase while the "dispersional mittel" remains, life may persist. If both phases coagulate, death follows. These coagulation changes may be called out by a variety of agents. Death from old age is due to the coagulation of this "dispersional mittel."

**LUMINESCENCE.** A popular account of Beebe's *Arcturus* expedition (see YEAR BOOK for 1925) appeared under the title, *The Arcturus Adventure*. Beebe records in this some observations on luminescence in the slender-tailed lantern fish *Myctophum coccoi*, a very small fish, weighing when adult about a gram. On either side of the body are 32 ventral lights; there are 12 lateral lights along the head and body, and from 4 to 8 median on either side above or below the tail. From the lower battery a solid sheet of light is cast downward, and Beebe noted that copepods would swim into this light as if attracted by it. The fish would then twist down and catch the copepod. Beebe thought that the lateral lights might be recognition marks. The caudal lights in the male are on the dorsal, those in the female on the ventral surface. These are possibly sex recognition marks, though their effect on the human eye points to a possible protective function. The flash has a blinding effect, so that for a time, just after it is turned off, the eye is unable to see the fish. If its natural enemies are similarly affected, the organ must have a decided protective value.

**MIGRATIONS.** Thompson, in *Problems of Bird Migration*, discussed in an early chapter the general question of migration in animals, limiting the term to cases where the animal regularly returns to the original locality after the migration. This would exclude such phenomena as the movement of lemmings, an activity which might be better characterized as swarming. The major part of the book is, however, concerned with bird migration, which is discussed from various angles, particularly with reference to conditions in the British Isles. Banding, because it has made possible the following of the wanderings of individual birds, has given most valuable information. It happens sometimes that what looks like a condition of permanent residence is really a case where the same locality is inhabited at different seasons by different individuals of the same species, which regularly migrate to other localities. If individuals are banded, this limited migration can be recognized. Thompson pointed out that migration is an expensive custom, which must be supposed to serve some useful end, probably in that it enables the bird to occupy two different regions in the season most favorable for it, especially in connection with food and breed-

ing places. Most theories of the origin of this habit refer it to some compelling cause in the past history of birds which is not now operative but which impressed the habit on the race. It is, however, possible that it may have arisen more suddenly, Pallas' sand grouse is cited as an example. (This species sometimes shows a definite spring migration, followed by a less evident fall one, from Central Asia to a region as far distant as northwestern Europe.) As far as the individual is now concerned, migration is an inherited custom which is awakened semi-annually by causes both external and internal. The details of the process are too complicated to admit of any simple explanation. Migrations of butterflies are of common occurrence, but have been thought by some to be mostly a mechanical movement due to air currents. Cramer (*Nature*, 118, p. 191) described a migration of painted lady butterflies at Palo Alto, Calif., in the early spring of 1926, where for two days immense numbers of these insects flew from southeast to northwest at a rate of about 15 miles per hour against the wind. Cramer offered no explanation of this movement.

**PROTOZOA.** Schaeffer (*Carnegie Inst. Pub.*, No. 345) discussed the taxonomy of the amœbas and gave a description of thirty-nine new species. In animals with so little external morphological characters as are shown in this group, it is difficult to determine precise taxonomic criteria, but Schaeffer believed that both nuclear and cytoplasmic characters appear to the experienced observer to be as definite and certain as they are in any other animal group. The most important information concerning a species is derived from pedigree cultures, and Schaeffer obtained these in the case of most species. While the taxonomy of the common amœba is very much confused, it appears that the application of the laws of priority require us to put it in the genus *Chaos* (Linnaeus 1767) and species *diffuens* (Muller 1788). In this case, "amœba" would disappear as a generic name but may conveniently be retained as a popular term to apply to any member of the group.

An important book of the year was Calkins' *Biology of the Protozoa*, in which were discussed the morphology, the taxonomy and the physiology of this phylum. An important problem in the protozoa is whether conjugation is essential for continued life of a race, or whether, if environmental conditions are favorable, it might live indefinitely in the absence of conjugation or its equivalent endomixis. (See YEAR BOOKS for 1914, 1916 and 1917.) While the evidence is somewhat confusing, Calkins argued for the former position. For example, a pure culture of *Uroleptus* in which conjugation is prevented lives only from ten months to a year, while if two individuals are taken from this series and allowed to conjugate they will start a new line whose life overlaps that of the parents, even though they have received identical food. Conjugation in some way has renewed the racial vitality. On the other hand, Dawson (*Jour. Exp. Zool.*, 46, p. 345) found that in a hypotrichous ciliate, *Histrio complanatus*, the cultures died only under conditions which he interpreted as due to unfavorable environment. Beers (*Jour. Morph. and Phys.*, 42, p. 1), reared *Didinium* in two series. To one was given an abundance of food, while the other received an insufficient amount. The

former showed no indication of reduced vitality and senescence, while the latter did. Beers concluded from these results that the pure line might continue indefinitely if provided with favorable food and environment.

Mast (*Jour. Morph. and Phys.*, 41, p. 347) recorded observations on the structure and locomotion of *Amoeba proteus*. The central portion of the animal is made up of an elongated fluid portion, the plasmasol, which is surrounded by a more rigid portion, the plasmagel. Outside this is a hyaline layer which may be liquid (as at the tip of pseudopods), and on the very outside an extremely thin layer, the plasmalemma. A local liquefaction of the gel is the starting point of a pseudopodium. The decrease in elastic strength resulting from this liquefaction produces a protuberance, and contraction at the posterior end forces out the plasmasol to form a pseudopodium. During locomotion the gel is changed to sol at the tip of the pseudopods, while at the posterior end the sol changes to gel. The character of the movement depends on whether the plasmalemma is attached to the sub-stratum or is free.

Ivanič (*Zoöl. Anz.* 68, p. 1) described the process of encystment in *Paramacium*, a very rare occurrence in this protozoön. The author had a culture of various protozoa and other microscopic forms, in which *Paramacium* appeared in remarkably small numbers, never forming a mass culture. This probably indicated a depression condition which was also responsible for the appearance of encystment. In this process the animals first became oval and then rounded up into a sphere which was covered by a slimy layer, probably ectocyst. The cilia had fallen off in the meantime. The outer layer of the body then became an endocyst. The tricoecysts gradually disappeared by absorption into the protoplasm. The cytostome at first becomes larger but later disappears. Since food may be in the body at this time, encystment is not a result of starvation. The author thought it depends on a period of nuclear depression, though the nuclear changes which take place here are much less than those at ordinary divisions. More serious depression conditions are remedied by parthenogenesis or conjugation. Bozler (*Proc. German Zool. Soc.*, 1926, p. 124) stated that the geotaxis of *Paramacium* is affected by temperature, being positive at lower and negative at higher temperature levels, though there is some individual variability. If enclosed in a glass tube so that geotaxis brings about contact with the glass, there is a decided negative thigmotaxis, causing a rebound from the wall like that of a rubber ball.

SPONGES. The siliceous spicules of sponges have long been used for taxonomic purposes, because they persist from generation to generation in essentially constant form and were regarded as the most characteristic of sponge characters. Dendy, an English authority on sponges, has maintained that they are really manufactured by bacteria living symbiotically in the sponge tissue. A posthumous paper by Dendy (*Quart. Jour. Mic. Sci.*, 70, p. 1) gives this argument in much detail, supporting it by numerous descriptions of the structure of these spicules and of their mode of origin. It apparently has often happened in the evolution of the sponges that one type of spicule has dropped out. This has been explained

on the assumption that a mendelian factor has been lost from the germ plasm. Dendy explained it rather as due to the failure of infection by the appropriate microorganism. Since the infection is generally quite constant and the characteristic form of spicule persists from generation to generation, Dendy saw no reason for abandoning spicules as taxonomic features.

HYDROZOA. Scheider (*Zoöl. Anz.*, p. 314), described some habits and modes of feeding in *Protohydra*. The animal is very adaptable to changed environmental conditions, and it is not easy to see how it could ever be exterminated in any locality, especially as it is very highly resistant to extremes of temperature and to chemical changes. It lives mainly on nematodes and insect larvæ, and will take food readily from forceps if the food is kept in movement. Two animals were seen to attempt to swallow the same nematode, with the final result that the larger swallowed both the nematode and the smaller hydra. The hydra ordinarily feeds on small crustacea, but Hyman (*Trans. Am. Mic. Soc.*, 45, p. 298) recorded a case where hydras were attacked and killed by large numbers of a small cladoceran *Anchistropus minor* which attached themselves to the hydras. Ordinarily, such crustacea would be killed by the nematocysts of the hydra, but these were not, being either immune to nematocyst poison or not attacked by the hydra. Hyman suggested that since hydras are sometimes injurious to fish in hatcheries, the introduction of these crustacea might offer a remedy.

ANNELIDS. Although it has been known for a long time that the common earthworm, *Lumbricus terrestris*, is sensitive to light, little information was available concerning the sense organs involved. Hess (*Jour. Morph. and Physiology*, 41, p. 63) described in detail the structure of "licht-zellen," as these were earlier named by Hesse. They consist of large cells, each with a central lens surrounded by a network of nerve fibres. The lens was found to focus light rays on to the nerve fibres irrespective of the direction of the rays. Pinhole windows in a sub-epidermal pigment layer admit light from all directions to these lenses. These photo-receptors are found in the epidermis in all parts of the body except intersegmentally and on the ventral surface.

CRUSTACEA. Caullery (*Bull. Biol. de France et Belge*, 60, p. 126) described a crustacean, *Capprella*, which very perfectly mimics a colonial bryozoön in both color and form, so that when quiescent it could not be seen. Caullery thought that this does not in any way protect the animal but results from visual reflexes. Dembowska (*Biol. Bull.*, 50, p. 163) described the behavior of *Dromia*, a crab which usually carries a sponge held over its back by the especially modified fourth and fifth pairs of legs. Dembowska was unable to find any evidence that this is beneficial to the sponge, hence concluded that it is not a case of symbiosis. There is no definite specificity involved in the choice of the sponge, as the crab will take any it can find. In the absence of sponges, the crab will utilize any other material. If given a piece of paper, it will cut out an oval portion of just the right size, and in procuring a sponge it cuts the sponge away from its foundation or will tear away little bits, in either case getting eventually an oval piece of the proper size to fit its own shell. By a com-



plicated process which varies with the conditions, the sponge is pushed into the final position. The crab shows considerable discriminatory powers in selecting the object it will use, preferring sponges to anything else. There is evidence of associative memory as, e.g., if the covering be taken off and put in a group with others, the crab will choose the one it had before. It will also learn to go to a certain part of the aquarium if the cover has repeatedly been taken off and put in that place, even though it were not there at the time. Dembowska (*Biol. Bull.*, 50, p. 179), described some habits of a fiddler crab, *Uca*, especially with reference to burrowing. The author strongly emphasized the conclusion that in this there is the greatest plasticity of activities and nothing stereotyped and tropistic. The burrow always has an end chamber which acts as an air chamber during high tides, the opening to the burrow being closed with sand by the crab as the tide comes in. While the hermit crab is a water-breathing animal, its gill chamber contains water which enables it to live in the air for several weeks at a time.

**ARACHNIDS.** Wood (*Jour. Morph. and Physiol.*, 42, p. 143) discovered that, contrary to the usual belief, spiders do not have the power of autotomy. A spider will remove an injured limb by biting it off, but there is no automatic or reflex mechanism concerned, as is the case in crustaceans. Pavlovsky (*Quar. Jour. Mic. Sci.*, 70, p. 135), discussed at length the lungs of scorpions. His final conclusions were that these are so perfectly adapted to various environmental conditions that they have been only very slightly modified from former times. In this respect scorpions may be regarded as the most ancient arachnids.

**INSECTS.** Lutz (*Nat. Hist.*, 26, p. 206) discussed the meaning of insect sounds, and concluded that many of these are accidental or incidental to various activities of the animal and are not of any more significance than the rattling of the armor of an ancient knight was to him. Lutz stated that when studying crickets he was able to distinguish the sound made by males according as they were fighting, courting or merely "singing," but that he could not see that these noises in any way affected the behavior of the female. Thus, it remains an open question whether the insect really hears the noise itself makes.

**MOLLUSCA.** Grimpe (*Proc. Germ. Zool. Soc.*, p. 148), described the process of mating in *Sepia officinalis*. If mature males and females are brought together they will begin at once to pair. At this time the coloring becomes more intense. This pairing is dependent on temperature, and apparently does not occur at low temperatures. The spermatophores are passed into the bursa copulatrix usually by the left arm. The process of egg laying is much like that of *Loligo* as described by Drew. When laid, the eggs are attached to corals, etc., or to twigs. The female finds her way to these twigs by sight, for if chemical stimuli are excluded by covering them with glass she will still go to them.

**FISHES.** One result of the *Aroturus* expedition (see YEAR BOOK for 1925), was the securing of material for the study of the embryology of a large number of fishes whose life history was previously unknown. In February, March and May these stages were particularly numerous in the Atlantic from Bermuda south, being much

more abundant there than from March to June in the Pacific. The appendix to the report of the United States commissioner of fisheries for 1926, published as *Bureau of Fisheries Document No. 1003*, stated that 161 species had been studied; among these were the eggs and young of 5 species of flying fish, some of them collected from nests in the Sargassum. In a later note, Mrs. Fish (*Science*, 64, p. 455) gave in detail observations on the development of some eggs provisionally identified as belonging to the common eel, *Anguilla rostrata*. If this identification is correct, it completes our knowledge of the life history of the eel. (See YEAR BOOK for 1923.)

**BIRDS.** As stated under *Migrations*, banding of birds enables us to secure valuable information, concerning migrations, obtainable in no other way. This work in the United States was at first done by voluntary associations, but it has now been taken over by the Biological Survey. Lincoln (*Auk*, 43, p. 153) reported on the results of this work. In addition to providing data for a study of migrations, important observations have been made on the change of plumage as the animal grows older. Gardner (*Auk*, 43, p. 447) described investigations of methods of protection of almond and apricot orchards in the State of Washington from attacks by crows. Flocks of crows, estimated to contain 30,000 individuals, completely ruined these crops. The most satisfactory remedy proved to be to spread poisoned almonds between the rows of trees. Although only about 1 per cent of the birds were actually poisoned, their behavior under the influence of the poison was sufficient to alarm the remainder of the flock, and they did not return, thus illustrating the extreme sagacity of these animals.

**MAMMALS.** Bauman (*Jour. Mammalogy*, 7, p. 1) compared the strength of pull, as recorded on a dynamometer, of a chimpanzee and of man, using for the latter members of a college football team who had spent the previous summer at work on farms in order to keep in muscular training. The results indicated that after the necessary corrections for relative weight had been made, the chimpanzee was from 2:57 to 4:78 stronger than the various men who were tested. Bauman was unable to account for this difference in any structural feature of the muscles in the two cases. He called attention, however, to a possible fallacy in the common belief that strong muscles are always associated with considerable roughnesses on the bones. The bones of the chimpanzee do not show enough such roughnesses as compared with man, to correlate in any way with these differences in absolute strength.

Bats have been thought to feed largely on mosquitoes, and this led to the construction in certain parts of Texas of "bat towers," wooden structures affording shelter to large numbers of bats. Storer (*Jour. Mammalogy*, 7, p. 85) was unable to find in the droppings of the bats which accumulate in considerable amounts at the bases of these towers any indication of mosquito remains, as would be the case if they had been eaten by the bats. His conclusion was that there is no reason to think that bats eat mosquitoes to any appreciable extent. They feed largely on moths, and this has undoubted economic importance, as has the considerable guano accumulation in the towers, but as enemies of mosquitoes they may be ignored. Shaw (*Jour. Mammalogy*, 7, p. 91), recorded observations on the



underground hibernating dens of the Columbian ground squirrel. These are usually dug at an angle with the surface, and are provided with drainage tunnels. Those made by the squirrels of the first year are not so well made as those of older animals, showing improvement through practice.

Schultz (*Am. Nat.*, 60, p. 297) reported that at all stages of development the human body shows great variations independent of environ-

mental conditions. These variations have a definite evolutionary significance.

**ZULULAND**, zoō'loo-land. A portion of the province of Natal in the Union of South Africa, to which it was annexed Dec. 30, 1897. Area, 10,427 square miles; population, in 1911, 219,606. There are extensive sugar plantations, the output of which, in 1923-24, was 203,300 tons. See SOUTH AFRICA, UNION OF, for the statistics on Natal.









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